City of Fremont
Union Pacific Railroad Corridor Trail Feasibility Study

PWC 8617



Submitted to

City of Fremont Transportation & Operations Department

Prepared by

Questa Engineering Corporation

In Association with

Korve Engineering
(now DMJM Harris/AECOM)

Final Draft
June 2009

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CITY OF Fremont

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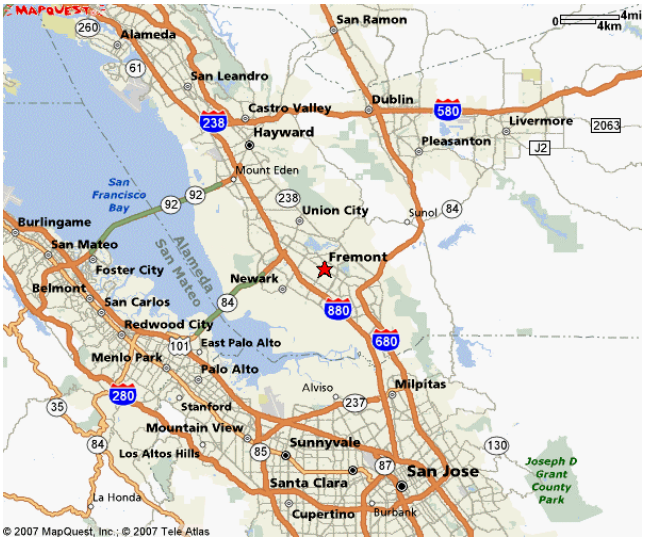
CONTENTS

Executive Summary

The Union Pacific Railroad (UPRR) Corridor Trail Feasibility Study explores engineering feasibility and preliminary design opportunities and design constraints associated with construction of a Class I multi-use trail along an existing rail corridor in the City of Fremont. The Feasibility Study includes a preliminary alignment and identifies feasibility issues associated with completion of a nine-mile trail along or adjacent to railroad right of way (ROW) from the Niles area (Clarke Drive) to the Milpitas city limits. The alignment consists of five study segments.



The trail has been part of the Fremont General Plan since 1991. The study identifies and evaluates the challenges and benefits of a possible trail alignment along the railroad corridor. The document is intended to provide background information and recommendations to aid the City and any partners in seeking private and public financing, securing grants, implementing programs and to help guide city officials in the decision-making process should trail acquisition and implementation opportunities arise in the future.

This study focuses on determining the design and construction challenges associated with a creating a trail within the study area, and does not include property owner negotiations, environmental clearance, permitting or trail construction. Implementation of this trail will be dependent upon successful negotiations with owners of the railroad, as well as other property owners such as Alameda County Flood Control and Water Conservation District (ACFCWCD), Bay Area Rapid Transit (BART) and Valley Transportation Authority (VTA) to commit to trail completion, as well as project funding, environmental clearance and community support for the project.

As of this date, negotiations for trail ROW have not commenced, except in limited areas where a ROW exchange is needed associated with other transportation projects (Paseo Padre and Washington Boulevard grade separation projects). Discussions with both BART and VTA staff during the course of this study indicated that neither entity would allow inclusion of a trail within the BART corridor.

Trail Components. The trail would be located within or parallel to the existing UPRR corridor that extends from the Niles area to the Milpitas city limits. The trail would be a paved section, ten feet wide with shoulders. At each street intersection, ramps would be installed to allow access to local streets for bicycles and ADA (universal) access. Where needed, stairs would also be provided, as well as marked crosswalks.

The Study identifies trail design components such as trail surface, width, signs, landscaping, fencing, etc. to create a trail that is separate from adjacent streets, and provides a safe route for pedestrians and bicyclists. The trail would include bollards or gates at street intersections to prevent vehicles, but would allow emergency vehicle access. At key points signage and traffic calming devices will be used to improve pedestrian/bicycle safety. Landscaping would be minimal, to allow visual access to the area, and reduce maintenance. Lighting would not be provided except at key areas.

Trail Connections. The Feasibility Study provides guidance on connections between the UPRR corridor and regional trail systems, including the Bay Area Ridge Trail and the San Francisco Bay Trail. Local connections to the neighborhoods would be implemented and evaluated on a case-by-case basis, as determined through coordination with neighborhoods.

Trail Implementation. The Study identifies steps for trail implementation, including ROW acquisition, review of potential environmental impacts associated with a trail project, funding options, trail costs, and phasing recommendations. Costs for acquisition of the entire corridor of Segment 1 and the northern part of Segment 2 are estimated to be on the order of $17.6 million. As discussed in **Section 8, Trail Phasing and Financing**, estimated costs for design, permitting, and construction are approximately $1.5 million for Segment 1, $1.4 million for Segment 2, and $650,000 for Segment 3.

Typical Class 1 Trail

Proposed Trail Segments

Segment 1: Niles (Clarke Drive/Old Canyon Road) to Mission Boulevard From Clarke Drive to Alameda Creek, the sidewalk should be extended to Old Canyon Road, with a trail connection to the existing parking lot and Alameda Creek Trail. The triangular parcel east of Old Canyon Road could be utilized as a trailhead.

Segment 1: Pickering Avenue Overcrossing

The trail along the ACE rail line could be placed on either side of the rail ROW, with the option of placing a tunnel under the rail line to connect with Orchard Avenue. The City should consider acquiring the triangular parcel north of Orchard to expand the park area and provide connection to the trail and school.

The Orchard rail trestle has recently been removed. Excess gravel ballast would be removed, and the trail would be located at grade to allow privacy for adjacent residents. Bollards or gates would be placed at each intersection to preclude vehicular access, but allow emergency vehicles to enter the trail.

Safe connections would be provided at each intersection, including ramps that would allow disability access, as well as stairs where practical. A direct bicycle connection to Stevenson Boulevard is recommended, to take advantage of the signal and crosswalk.Existing bridges and overpasses would be retrofitted to provide safety railings. Local connections to Vargas Plateau and the Ridge Trail should be explored further.

All of the land in this segment is in private ownership (Union Pacific Railroad), and implementation of the trail would be subject to negotiation, as well as review by federal and state regulatory agencies to allow formal abandonment of the currently unused ROW.

Segment 2: Mission Boulevard to Paseo Padre Parkway This segment would be located on unused ROW between Mission Boulevard to the Gomes Park/Mission Creek trail, where it would cross to the west UPRR alignment. Local connections to existing neighborhood trails should be explored.

Segment 2: Golf Course vicinity

Improvements to develop a public trail between Gomes Park and Central Park along Mission Creek Levee are recommended. Improvements should provide directional information and improved aesthetics.

South of the golf course, pedestrian signals or crosswalks are planned to improve safety

for trail users. Direct trail connections should be coordinated with Alameda County, UPRR, and the California Public Utilities Commission (CPUC) and implemented when the BART tunnel is built.

A spur trail to Paseo Padre should be considered.

A pedestrian overcrossing is currently planned as part of Paseo Padre grade separation improvements.

Segment 3: Paseo Padre Parkway to Washington Boulevard

From Paseo Padre Parkway to Washington Boulevard, the trail would be located on the existing tracks on the west side of the ROW, since the railroad and BART will be shifted to the east side. Any proposed development of property between BART and the trail should provide a connection and link.

The trail should be connected to proposed or planned redevelopment improvements in downtown Irvington, as well as pedestrian and bicycle linkages to the proposed BART Station at Osgood Road.

The trail should be completed under the Washington Boulevard overpass, to provide a direct connection to proposed BART parking and other improvements.

Segment 3: Irvington (rail to be relocated)

Segment 4: Washington Boulevard to S. Grimmer Boulevard

BART (property owner) has indicated that the trail can potentially be located within its ROW, but outside the BART operating ROW. The remainder of the alignment (owned by UPRR) is committed to regional rail, with up to four tracks. The City should continue to work with these entities to explore trail opportunities in unused ROW, or other areas such as utility corridors, access easements, Flood Control access roads, or acquiring small portions of adjacent lands such as parking lots and landscape strips. Trail connections to local neighborhoods and BART/rail facilities should be explored.

Segment 4: Power Lines

An interim alignment using the Flood Control channel maintenance access facilities between Washington and Auto Mall Parkway should be explored, especially potential trail connections and improvements along Fremont Boulevard.

Segment 5: South Grimmer Boulevard to Fremont City Limits

As with Segment 4, BART has indicated that the trail can possibly be located within its ROW, but outside of the BART operating ROW. The remainder of the alignment (also owned by UPRR) is committed to regional rail, with up to four tracks.

Segment 5: Warren Avenue

The City should continue to work with these entities to explore trail opportunities in unused ROW, or other areas such as utility corridors, access easements, Flood Control access roads, or acquiring small portions of adjacent lands such as strips of abutting parking lots and landscape strips.

Trail connections to local neighborhoods and BART/rail facilities should be explored. If and when the NUMMI plant or other industrial uses in this corridor become redeveloped for residential, office or commercial use, then trail planning and trail connections should be included as part of site redevelopment. This is most likely a long-term option.

Key issues for implementation of a trail in Segments 4 and 5 are discussed in **Section 4, Preferred Alignment**.

The study includes design guidelines as well as a funding and phasing plan to facilitate trail implementation.

Public Outreach

Planning for a UPRR rail trail has been part of the City's General Plan since 1991. This study was commissioned to provide a comprehensive analysis of trail opportunities, constraints and design challenges for trail implementation. Extension of the BART alignment from Fremont south to San Jose within the trail corridor presents a unique opportunity to work together for implementation of a non-motorized route that will provide safe neighborhood connections to the new BART stations and along the BART alignment. In addition to working with BART, Alameda County Flood Control District, VTA, and other agency staff to determine trail options, two public forums and a presentation to a local community group were held to discuss the proposed trail and identify neighborhood concerns. A record of comments received to date is included in **Section 9, References**.

1. Introduction

This engineering feasibility and preliminary design study explores the opportunities and design constraints associated with construction of a Class I multi-use trail along an existing rail corridor in the City of Fremont. The nine-mile long Union Pacific Rail (UPRR) Trail would follow current and future abandoned Union Pacific Railroad corridors between Clarke Drive in the north and south of Warren Avenue to the Fremont City limits at Milpitas. This feasibility study examines the potential of this rail trail project, and the compatibility of the project with the BART extension to Warm Springs and Santa Clara County. The trail route was identified in the City of Fremont's 2005 Bicycle Master Plan as a high priority for implementation.

1.1. Project Description

This UPRR Trail Feasibility Study was recommended to further explore a potential Class I trail along the railroad ROW, since several areas are in the process of becoming unused, abandoned, exchanged, or redeveloped for the future BART route. The trail project segments (**Figure 1**) include:

Segment 1: Niles (Clarke Drive/Old Canyon Road) to Mission Boulevard (length - 1.7 miles)

Clarke Drive is the proposed northern boundary of the rail trail project. The entrance to the proposed rail trail is one block from the Alameda Creek staging area off of Old Canyon Road. The Alameda Creek Trail is managed by East Bay Regional Park District along the Alameda County Flood Control and Water Conservation District Right of Way (ROW). Just north of Clarke Drive is a potential access point to the Bay Area Ridge Trail and the Vargas Plateau in the hills above The proposed trail alignment follows the active rail line from Clarke Drive to the wye junction several hundred yards to the south, then follows the abandoned UPRR rail corridor to the south over Orchard Drive, past Vallejo Mill School, over Orchard Ave. and Pickering Drive, across Morrison Canyon Road at grade, to the Mission Boulevard overcrossing.

Segment 2: Mission Boulevard to Paseo Padre Parkway (length - 1.5 miles). A portion of the Mission Boulevard to Paseo Padre Parkway trail section includes the acquired 7,300-foot UPRR line for the City of Fremont Grade Separation project. City staff has negotiated a ROW exchange with UPRR for the property; this would reroute UPRR traffic to the east side of the existing UPRR ROW. This has a challenge of crossing the existing UPRR trail at Central Park. This segment includes a potential connection to the existing Central Park trail around Lake Elizabeth.

Segment 3: Paseo Padre Parkway to Washington Boulevard (length - 0.9 miles). This segment of the trail will run along the future abandoned UPRR line on the west side of the new UPRR ROW, and will be acquired as part of the Grade Separation project. Potential connections to the future Irvington BART station are included.

Segment 4: Washington Boulevard to S. Grimmer Boulevard (length - 2.2 miles). This segment includes a potential alignment along the rail corridor, which will contain the proposed BART extension and an active rail line. This is a highly constrained segment, and inclusion of a trail in the existing rail corridor ROW is problematic.

Segment 5: South Grimmer Boulevard to Fremont City Limits (length - 2.7 miles). This segment is located within an industrial area, and like Segment 4 contains the proposed BART extension and an active rail line. The NUMMI auto plant's rail yard is on the west side

of the ROW on this segment. South Grimmer Boulevard is a bikeway connection under I-680 to the Bay Area Ridge Trail access point at the east end of Stanford Avenue. As with Segment 4, inclusion of a Class I trail within the existing rail corridor is challenging.

The UPRR rail ROW is shown on the recently adopted City of Fremont Bicycle Master Plan as the City's only north/south bicycle and pedestrian Class I route. The trail would improve bikeway continuity and connectivity to major activity centers, as well as providing connections to all major east-west roadways in the City, benefiting bicycle commuters, casual, and recreational users. In addition, portions of the trail are in the process of becoming available for conversion to trail uses, as rail use ceases.

The City has negotiated with UPRR for a ROW exchange as part of an ongoing grade separation project at Washington Boulevard and Paseo Padre Parkway. The ROW exchange provides the City with a 1.3-mile segment adjacent to Central Park to construct a portion of the bicycle/pedestrian trail and an initial segment of the larger trail project. Some corridor segments for the proposed Class I trail are in the process of being formally abandoned, including the portion between the wye junction near Clarke Drive and Central Park, where tracks and infrastructure have already been removed.

UPRR Corridor Use and Strategic Planning. At the north end of the study area, the trail route includes approximately 1,200 feet of active rail line that serves the Altamont Commuter Express (ACE), a passenger rail line that connects Silicon Valley with the San Joaquin communities of Tracy and beyond. This line has been recommended for expansion by the MTC. Portions of the alignment south of this area to Washington Boulevard have been abandoned (eastern tracks), and the rails have been removed. Beginning north of Paseo Padre Parkway, the eastern set of tracks is proposed for use as the BART extension, with a new rail alignment, transitioning to the westerly set of tracks south of Washington Boulevard.

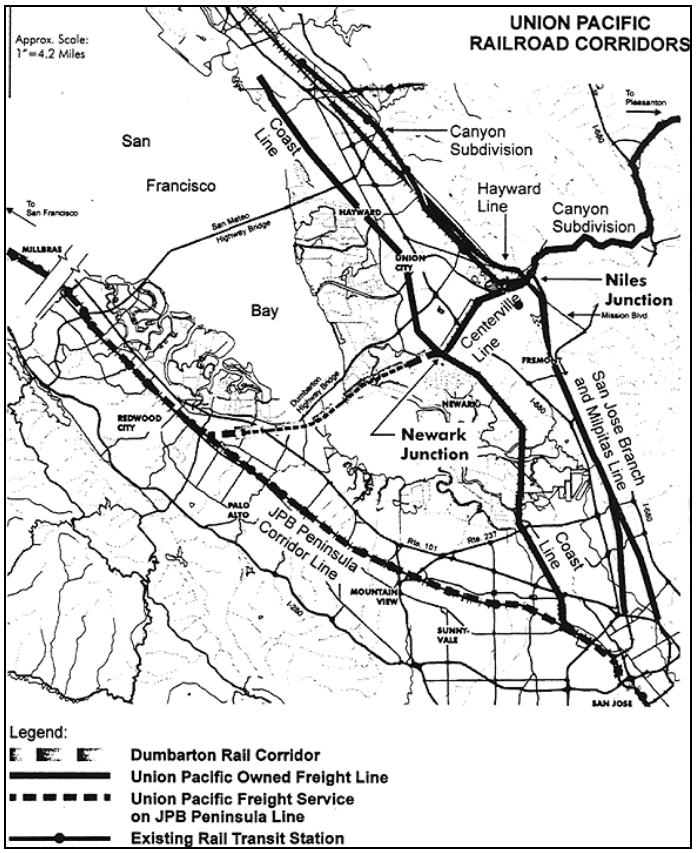
The westerly set of tracks is in active use, and this use continues to the southern study boundary. South of Grimmer, the westerly rails contain multiple side rails and spurs, most notably to serve the NUMMI automobile factory off Kato Road. Active rail use in this area is projected to continue indefinitely.

UPRR History. The Union Pacific Railroad (UPRR) alignment through Fremont was acquired from other rail operators in the late 1990s. In Fremont, there are three major rail alignments:

- The San Jose Branch and Milpitas Line (UPRR Study Corridor) approach Niles Junction from the south as essentially a single rail corridor that splits. The San Jose Line ends into the Canyon Subdivision at Niles Junction; the Milpitas Line continues directly north of Niles Junction as the single-track Hayward Line, going to and from Oakland.
- The Coast Line, between San Jose and Oakland, which is closest to the Bay and runs through Newark Junction as a single track. This line is the primary passenger rail line.
- The Canyon Subdivision enters the Bay Area from east at Niles Junction, crosses the Hayward Line, turns north and continues as a third rail corridor to Oakland. This line is the route of the Altamont Commuter Express, the passenger rail that is at the north end of the study area.

The 23-mile San Jose Branch was built by Western Pacific in 1921. It begins in Niles and continues south through Milpitas to the Williams Street Yard in San Jose (now closed). The Warm Springs Yard, south of Grimmer, was built in 1963 to distribute incoming and outgoing traffic to the new GM plant (now New United Motor Manufacturing plant (NUMMI)), which opened for business that year. The UPRR Trail will follow this alignment.

Western Pacific was acquired by Union Pacific (UP) in 1982, and the UP and Southern Pacific Transportation Company (SP) merged in 1996, unifying the ownership of rail lines in the region.



Union Pacific Railroad Corridors

Source: Dumbarton Rail Corridor Study Service Plan Evaluations, 1999

1.2. Planning and Policy Context

The UPRR Trail provides a key north/south bicycle pedestrian link within Fremont. Relevant bicycle and pedestrian goals, policies and recommendations are contained in several local and regional plans, projects, and studies, including:

- City of Fremont General Plan (1991) (note: currently being updated- this Trail Plan can be incorporated by reference in the updated GP)
- Fremont Bicycle Master Plan (2005)
- Fremont Pedestrian Plan (2008)
- Santa Clara Valley Transportation Authority (VTA) BART Extension, EIR/EIS (2004) and supplemental EIR/EIS (April 2007)
- Irvington Concept Plan (2005)
- BART Strategic Plan (1999, 2003)
- BART Bicycle Access and Parking Plan (2005)
- BART Warm Springs Extension EIS (2006)
- Bay Area Ridge Trail Vargas Plateau to Garin / Dry Creek Pioneer Trail Feasibility Study by East Bay Regional Park District (2005)
- San Francisco Bay Trail (ABAG)
- Metropolitan Transportation Commission (MTC) Regional Bicycle Plan
- Metropolitan Transportation Commission (MTC) Regional Rail Plan
- Caltrans Projects
- Alameda County Flood Control and Water Conservation District
- City of Milpitas General Plan

City of Fremont General Plan. The City of Fremont's General Plan (1991) provides a set of directives and guidelines regarding future development in Fremont. The General Plan contains maps showing existing and proposed land uses within the City planning limits. The 1991 General Plan's *Bicycle Facilities Foot and Horse Trails* Map (General Plan Figure 8-13) shows the UPRR route as a potential bicycle facilities and foot trail for further study.

Chapter 6 of the Fremont General Plan outlines goals, objectives, policies and programs for recognition, use and enjoyment of natural areas within the City, including a program for a comprehensive trail system:

Goal OS (Open Space) 2: Recognition, protection, and enhancement of significant natural areas and wildlife habitats in the city, including bay tidal, seasonal, and freshwater wetlands, and open meadows and fields.

OBJECTIVE OS 2.5: A comprehensive system of trails connecting destinations within Fremont

- *Policy OS 2.5.1: Develop a system of trails shown on the General Plan trails map, as funding permits. Effort shall be concentrated on trails that link major destinations and are accessible to a large number of people.*
- *Implementation 1: Develop priorities for filling in gaps in the existing trail system. Priorities include a link between Central Park and the Alameda Creek Regional Trail with a bridge at the proposed Alameda Creek Quarries Regional Park; a link from Central Park to Mission San Jose via Mission Creek; and a "Bay to Ridgetop" trail near the southern end of Fremont.*

- *Implementation 2: Develop and apply standards for trails and paths appropriate to their proposed use. Standards should address width, surfaces, signs, safety, and access. In general, major trails should be designed for multiple uses: pedestrians, bicycles and horses.*
- *Implementation 3: Seek citizen input in planning new trails and paths.*
- *Implementation 4: Plan and build trails that connect residential, industrial and commercial areas with nearby regional trails.*
- *Policy 2.5.2: Provide public access to major trails, with appropriate staging areas and parking where feasible. Public access points shown on the General Plan are approximate locations. Specific locations of those access points will be determined as part of project approval and shall be provided in new development. Where access is provided, (either as required or as part of project designs), site and building design adjacent to the access point or trail shall also provide for sufficient privacy and a clear boundary between public access and private uses.*
- *Policy OS 2.5.3: The City shall use a variety of resources in completing its trail system.*
- *Implementation 1: Work with other public agencies to develop paths on existing public rights-of-way, such as creeks, flood control channels, Hetch Hetchy and South Bay Aqueduct rights-of-way, and PG&E power line easements, where needed to close gaps.*
- *Implementation 2: Seek to obtain State and Federal grants to help implement the City's trail system.*
- *Implementation 3: Require new development to dedicate right-of-way for trails where they are indicated on the General Plan map. The location of trails shown in the Hill Area which do not already exist are conceptual. Exact trail locations will be determined when development projects are proposed.*
- *Policy OS 2.5.4: The City shall strongly support the East Bay Regional Park District's plans for expanding its parks and trails in Fremont.*
- *Implementation 1: Strengthen the City's liaison with the East Bay Regional Park District (EBRPD).*

OBJECTIVE OS 2.6: A system of regional trails connecting Fremont with neighboring cities and connecting the hills to the Baylands

- *Policy OS 2.6.1: The City supports the ABAG Bay Trail, the "Bay Ridge Trail" (East Bay Regional Park District Garin to Mission Peak Trail), Niles Canyon regional trail, and Wildlife Refuge trails.*
- *Implementation 1: Assure sufficient right-of-way and improvements for the ABAG Bay trail along its proposed alignment in Fremont.*
- *Implementation 2: Work with Santa Clara County, the cities of San Jose and Milpitas, and other public agencies to provide a bicycle and pedestrian bridge across Coyote Creek.*
- *Implementation 3: Encourage regional agencies to provide restrooms and parking at trailheads of major regional trails.*
- *Implementation 4: Work with appropriate organizations and agencies including the East Bay Regional Park District, to facilitate the development of the Bay Ridge Trail and Niles Canyon regional trail. The location(s) of these trails on the City's Trails Map is conceptual.*
- *Implementation 5: When evaluating future development throughout the trail corridor, particularly in the Vargas Plateau area, consider opportunities to create staging facilities.*
- *Implementation 6: A multi departmental study should be conducted to clarify administrative responsibilities for the city's trail system.*

The Transportation Chapter (Chapter 8) of the Fremont General Plan provides a discussion of a number of bicycle related issues. General Plan goals, objectives, and policies related to the development of bicycle facilities include the following:

Goal T 1: Efficient use of roadway system to provide convenient travel, reduce congestion, and improve air quality.

- *Policy T 1.4.1: Establish a program encouraging the use of transit, ridesharing and other alternatives to commuting by single occupant vehicle.*

- *Policy T 1.5.2: Work with other jurisdictions to develop solutions to regional congestion.*
- *Implementation Program II-12: The City shall review the potential bicycle related improvements identified in the General Plan. Potential improvements in the General Plan or others identified by the City that are found to be feasible and desirable shall be incorporated into a Bicycle-Related Improvements Program.*

Goal T 2: Convenient alternatives to the automobile to conserve energy, reduce congestion, improve air quality and provide a variety of transportation choices to meet a variety of needs.

- *Objective T 2.3.: Easy transfer from one type of transportation to another to promote the use of alternatives to the automobile.*
- *Policy T 2.3.1: Encourage inter-transit agency coordination to facilitate interconnections.*
- *Implementation 1: Work with public and private transit providers to coordinate their schedules and ticketing.*
- *Policy T 2.3.2: Provide facilities for transfers between different types of transportation.*
- *Implementation 3: Encourage future rail transit facilities to include inter-modal transfer facilities. Consider alternative City actions to assist in providing for such facilities.*
- *Objective T 2.4: A safe and convenient bicycle network that facilitates bicycle travel for commuting to work, school, shopping and for recreation.*
- *Policy T 2.4.1: Complete the bicycle route system identified on the Planned Bicycle Route, Horse and Foot Trails map.*
- *Implementation 1: Develop a priority list for planned public improvements, emphasizing bicycle route connections.*
- *Implementation 4: Provide for bicycle safety in the design of interchanges where crossings are shown on the bicycle route diagram.*
- *Implementation 5: Where conflicts arise between critically needed parking spaces and bicycle lanes, consider changing bicycle routes, prohibiting parking during peak hours, or developing off-street parking. If necessary, consider prohibiting parking where it would obstruct bicycle routes.*
- *Policy T 2.4.2: To increase bicycle safety, the bicycle system shall consist of on-road striped bicycle lanes and off-road bicycle trails, whenever feasible.*
- *Policy T 2.4.3: Promote bicycle travel.*
- *Implementation 7: Work with ABAG to coordinate connections between Fremont's bike system and ABAG's Bay Trail.*

Goal T 3: Transportation facilities and corridors that enhance the City's identity, and especially its historic, visual and natural resources.

- *Objective T 3.1.1: Transportation facilities and corridors that enhance community and City identity.*
- *Policy T 3.1.2: Require transportation facilities that aesthetically complement their built and natural environment.*
- *Implementation 1: Work with transportation providers like BART to develop station designs which complement the areas in which they are located.*
- *Implementation 2: The BART extension shall be trenched, covered and sound insulated under Central Park and shall be grade separated along with the existing railroad.*
- *Policy T 3.1.3: City roadway-to-roadway grade separations shall ordinarily not be allowed in historic areas, community commercial centers and residential areas. All grade separations shall be treated with sensitivity to the pedestrian environment, the visual character of the area, and the noise environment.*
- *Implementation 1: Grade separations shall be evaluated for their impacts on the visual character of an area. Facilities for pedestrian and bicyclists shall be incorporated whenever feasible in roadway-to-roadway grade separated facilities.*

Fremont Pedestrian Plan. The Fremont Pedestrian Master Plan (2008) was prepared to guide the future development and enhancement of pedestrian facilities within the city. The focus of the Plan is to provide goals, policies and programs to encourage walking, as well as identify potential projects and identify funding sources for implementation. The plan contains an

inventory of pedestrian facilities, identification of community needs and benefits of a pedestrian-oriented circulation system, and specific projects. The UPRR trail is identified as a potential improvement project.

Fremont Bicycle Master Plan. The Fremont Bicycle Master Plan (2005) recommends expanding and enhancing Fremont's existing bikeway network with approximately 16 miles of new Class I Bike Paths, 27 miles of new Class II Bike Lanes, and 33 miles of new Class III Bike Routes. In addition to the planned bikeways and bicycle facilities, the plan outlines new support, educational and encouragement programs to improve bicycle safety and encourage more people to try bicycling for commuting, shopping, and recreation. These recommendations include bicycle parking improvements, bicycle safety and education programs, Safe Routes to School efforts, community and employer outreach programs, and increased police enforcement of motorist and bicyclist traffic violations.

The UPRR trail was identified as a high priority project in this document based on the following criteria:

- It will improve safety, accessibility and connectivity.
- It is identified as a high demand route or potential for increased demand.
- It is identified in the City, County and Regional Bicycle/Pedestrian Plans.
- Project readiness will be considered. Proposed projects must satisfy grant funding construction schedule completion requirements.

Bicycle Master Plan goals, objectives, and policies include the following:

Goal 1: Expand and Optimize Fremont's Bicycle Facilities

- *Policy 1.1. Provide bicyclists safe and accessible routes to all destinations within the City and outside the City, which are served by public roads, trails, transit and rail.*
- *Policy 1.2. Complete a comprehensive bikeway network by closing existing gaps and providing projects that improve intermodal connections.*
- *Policy 1.3. Encourage installation of bicycle parking at employment sites, schools, shopping centers, rail/transit stations, parks, recreation facilities and City facilities.*

Goal 2: Plan and Design for the Needs of Bicyclists

- *Policy 2.1. Include bicycle facilities in all city transportation projects where feasible and appropriate.*
- *Policy 2.2. Conform to the guidelines and standards of the City of Fremont, Alameda County, Metropolitan Transportation Commission, State and Federal Standards for the design and construction of bicycle facilities.*
- *Policy 2.3. Monitor and evaluate information on collisions involving bicyclists and use this information to assist in remedying existing problem locations and behaviors.*
- *Policy 2.4. Conduct regular bicycle counts so that trends and usage may be monitored and evaluated.*

Goal 3: Promote bicycle safety and increased bicycling through education, encouragement, and enforcement activities.

- *Policy 3.1. Continue existing and pursue new adult and youth bicycle education and safety programs in Fremont, such as Safe Moves and the League of American Bicyclists courses.*
- *Policy 3.2. Continue Fremont Police Department enforcement of bicycle related violations by both motorists and bicyclists, and emphasize positive enforcement for safe bicycling behavior by children. Utilize League of American Bicyclists or other education programs as a "bicycle traffic school" for bicycle infractions.*
- *Policy 3.3. Support Safe Routes to School efforts that include educational and incentive programs to encourage more students to bicycle or walk to school.*
- *Policy 3.4. Encourage major Fremont employers to provide incentives and support facilities for existing and potential employees that commute by bicycle.*

- *Policy 3.5. Identify ways to encourage bicycling to large civic events, such as by providing valet bicycle parking.*

Goal 4: Provide for regular maintenance of the bikeway network

- *Policy 4.1. Develop a program for routine maintenance of bikeway network facilities including regular sweeping of bikeways and shared use pathways.*
- *Policy 4.2. Include the costs of major maintenance needs of bicycle facilities when calculating the maintenance needs of streets and roadways generally.*
- *Policy 4.3. Develop a program to ensure that bicycle loop detectors are installed at all signalized intersections on the bike network and are tested regularly to ensure they remain functional.*
- *Policy 4.4. Require that construction or repair activities, both on street and of adjacent buildings, ensure bicyclist safety at all times, minimize disruptions, and provide alternate routes if necessary.*

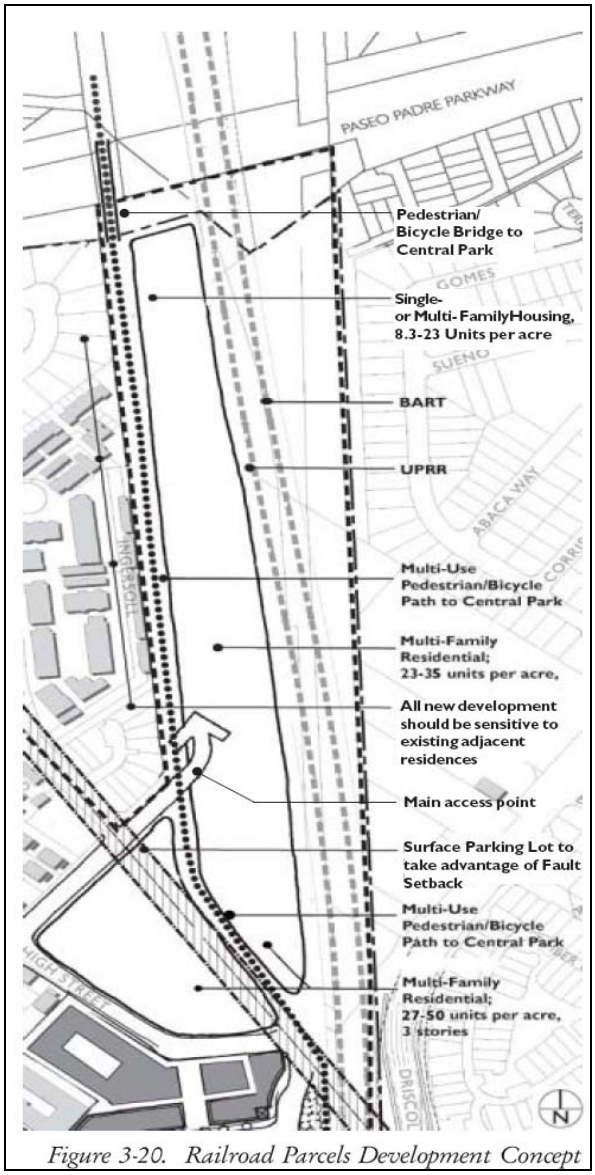
Goal 5: Facilitate Coordination and Cooperation in Development of the Bicycle Network

- *Policy 5.1. Integrate Fremont's bikeway network with adjacent jurisdictions and Alameda County to ensure regional connectivity.*
- *Policy 5.2. Develop a north-south and east-west bicycle corridors within the City roadway network in keeping with the City's commute patterns.*
- *Policy 5.3. Establish regular communication between adjacent cities, the East Bay Regional Park District, Caltrans, and other affected agencies regarding bicycle planning issues.*
- *Policy 5.4. Include "Rails to Trails" projects in the development of the bicycle network.*

Goal 6: Implement the Bicycle Master Plan

- *Policy 6.1. Develop and update every two years a bicycle projects list in coordination with the City's Capital Improvement Program process which satisfies the City's bicycle goals and objectives.*
- *Policy 6.2. Continue to identify and apply for public funding sources to finance bicycle facilities, education and safety programs.*
- *Policy 6.3. Update the Bicycle Master Plan periodically as required by Caltrans to reflect new policies and/or requirements for bicycle funding.*

Irvington Concept Plan (2005). This plan outlines redevelopment goals and programs for the Irvington area, to improve the downtown core area, provide guidelines for beautification, and to promote transit-oriented development that provides connections to the proposed Irvington BART Station and other areas. The plan identifies the UPRR Trail as a Multi-Use Bicycle and Pedestrian Path to connect with Central Park, and identifies the lands between the proposed trail and new UPRR/BART alignment as an area for development of multi-family residential housing.



Irvington Concept Plan

Source: City of Fremont Irvington Concept Plan January 25, 2005

BART Strategic Plan (1999, 2003). The Bay Area Rapid Transit District (BART) mission is "*To provide safe, clean, reliable, and customer-friendly regional public transit service in order to increase mobility and accessibility, strengthen community and economic prosperity, and preserve the environment in the Bay Area*." BART's Strategic Plan sets forth the guiding principles for operation and expansion during the next twenty years. Among the goals and policies is a clear direction for working with local communities to improve alternate modes of access to and within BART facilities. This includes:

- *Transit Travel Demand: We will encourage and facilitate improved access to, and from, our stations by all modes.*
- *Sustainability: Enhance the use of resource-efficient and environmentally-friendly access modes (e.g. bikes, walking, etc.), and other sustainable features at BART's new and existing stations. Integrate*

sustainability principles and practices including multimodal access into the planning, design, and construction of new BART stations and related facilities.

BART Bicycle Access and Parking Plan (2002). To meet its goal "*to encourage and facilitate improved access to and from stations by all modes",* BART committed to achieving a 10% shift in access mode to increase use by other modes such as transit, taxi, carpool, drop-off, walking and bicycling. Station Access Plans are being prepared to examine access improvements, such as infrastructure, programs, or policy changes to increase alternate transit modes.

The Plan calls for coordination with local jurisdictions and transit agencies to provide links between the BART stations and their bikeway networks. In addition, the Plan calls for BART to work with other transit agencies to provide bicyclists with easy and convenient transfers between systems.

The Plan contains transportation planning directives to "*Develop and enhance opportunities for bicyclists to easily access other modes of transportation*". The Plan also supports "*Exploring station access and development of a safe-routes-to transit program."* Policies and objectives include:

Objective 2.0 Multimodal Integration Develop and enhance opportunities for bicyclists to easily access other modes of transportation.

2.1 Encourage transit agencies to promote, provide, and maintain convenient and secure bike parking facilities-racks, bike lockers, instation bike storage, and staffed bicycle parking facilities-at transit stops, stations, and terminals.
2.2 Facilitate multimodal transportation cooperation with local and regional transit agencies to ensure bicycles can be accommodated on all forms of transit and that adequate space is devoted to their storage on board whenever possible.
2.3 Improve bicycle access to transit hubs and stations by means of signage and bikeways.
2.4 Encourage bicycle-friendly development activity and support facilities, e.g., bicycle rental and repair

Local Access to Station Recommendations:

A-1. Work with local jurisdictions to provide direct, safe and well-marked routes to/from the BART station. Ensure that these routes have bicycle lanes, if possible, or wide curb lanes at a minimum, and that all actuated traffic signals near the BART station can be activated by bicycles.
A-2. Encourage local jurisdictions to give streets leading to BART station top priority for bicycle facilities.
A-11. Provide safe, direct and well-marked bicycle routes through station property from station property entrances to bicycle parking and fare gates minimizing conflicts between bicyclists, pedestrians, automobiles and buses. Sidewalks shall be used as bicycle routes only when they have been designed to safely accommodate the expected volumes of bicycle and pedestrian traffic.

Short Term Project Recommendations:

23. Work with local jurisdictions to fund, design and construct bicycle/pedestrian only entrances at BART station property borders. Include appropriate traffic control devices and signage at entrance points and well-designed curb cuts and ramps. (A-8, A-9, A-10)
24. Continue to work with local jurisdictions to provide good bikeway access to the station from all directions. (A-1, A-2)

Recommendations – Future Station Projects and Transit Villages

C-2. Provide safe and direct bicycle access through the transit village to the BART station. Wherever possible, separate bicycle routes from those for pedestrians and motor vehicles.
C-3. Provide bicycle access through all areas of the transit village. Avoid the designation of pedestrian-only zones which exclude bicycles.

BART Warm Springs Extension (WSX) Final EIS (2006)

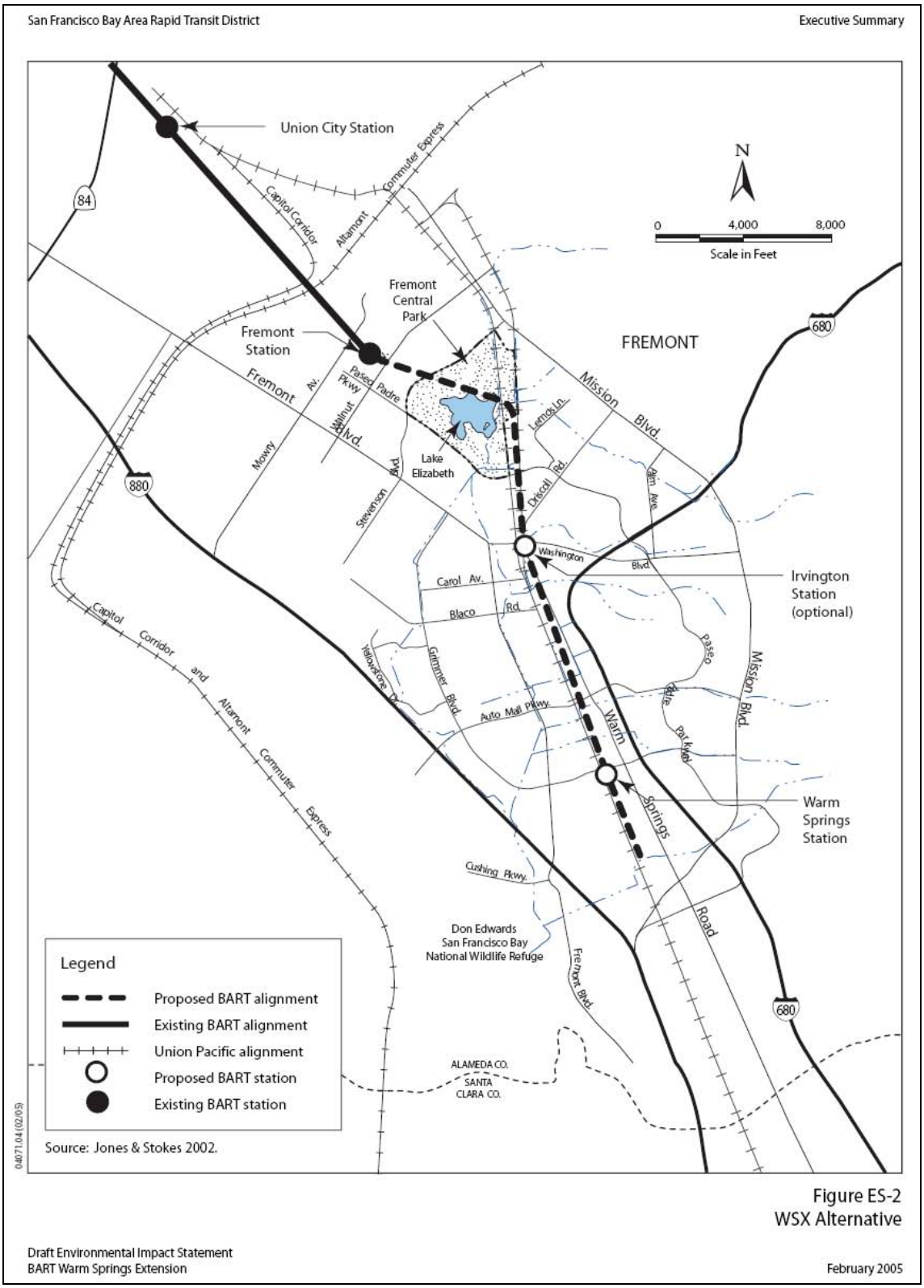
BART is in the final planning stages of the Warm Springs Extension (WSX), a five-mile extension of the existing system, from its current terminus north of Lake Elizabeth to 3,000 feet south of a new BART Warm Springs station at South Grimmer Boulevard. The WSX alignment would generally parallel portions of the UP railroad corridor. The segment would begin on an embankment at the southern end of the existing elevated Fremont BART Station, pass over Walnut Avenue on an aerial structure, descend into a cut-and-cover subway north of Stevenson Boulevard, continuing southward under Fremont Central Park and the eastern arm of Lake Elizabeth, returning to grade between the east UPRR alignment (abandoned) and west UPRR alignment (active) north of Paseo Padre Parkway. The alignment would pass over the grade-separated Paseo Padre Parkway, and then continue southward at grade, passing under a grade-separated Washington Boulevard. From Washington Boulevard, the WSX alignment would continue south along the eastern side of the UPRR ROW.

According to the WSX EIS, until December 2002, WP and SP were both owned by UP. In the EIS, the tracks on the eastern side of the UP ROW are referred to as the former WP tracks, and the tracks on the western side of the UP ROW are referred to as the former SP tracks. The westerly tracks are currently owned by Union Pacific, while Valley Transportation Agency (VTA) has purchased the easterly ROW for the BART extension.

In the northern portion of the BART extension, from the Lake Elizabeth surface to grade portion of the route to the Washington Boulevard overpass (and future Irvington Station), there is minimal conflict between the proposed UPRR trail alignment and the BART alignment, as the active UPRR line would be relocated parallel to the BART alignment on the east side of the corridor (former WP tracks). However, south of Washington Boulevard, BART would utilize the easterly (former WP tracks) alignment, and UPRR would transition back to the existing westerly (former SP tracks) alignment, leaving (as currently planned) little or no width for a trail within the ROW west of the UPRR line.

The Warm Springs EIS does not specifically mention the Fremont UPRR Trail shown on the General Plan or the City's Bicycle and Pedestrian Master Plan. ROW is available on the to-be-relocated UPRR alignment from the Lake Elizabeth area south to Washington Boulevard for the trail, and design plans for the grade separation of Paseo Padre and Washington include provisions for a "utility bridge" that would convey the trail across Paseo Padre. As presently proposed, the trail can be located on the west side of the BART alignment with minimal conflict as far south as Washington Boulevard. Trail connections to the future Irvington Station should be incorporated into the design plans for the station.

No ROW has been set aside for a pedestrian/bicycle trail alignment south of Washington Boulevard, where the BART alignment is located on the easterly tracks and the UPRR active rail line transitions onto the westerly tracks. It is conceivable that some ROW is available in select locations for a trail, however, it is likely discontinuous, constrained by utilities or located between the UPRR alignment and proposed BART line, which would be unsafe. It appears that at this point in the planning/design process, BART is unlikely to re-design the project to incorporate or accommodate a trail in this area, but is willing to explore allowing use of some of the unused alignment for a trail, as well as incorporating connections for the BART stations. However, it is unlikely that the trail will be accommodated without a formal request by the City of Fremont, City Council.



BART Warm Springs Extension

Source: BART Warm Springs Extension (WSX) Final EIS, 2006

The WSX project is currently in the design phase, but has not been fully funded. It is possible that including some pedestrian and bicycle trail components into the final design will help in obtaining additional state and federal funds, or that if a trail plan is in place, any funding can designate or earmark some line items for trail construction, including connections between the trail and BART stations.

Santa Clara Valley Transportation Authority (VTA) BART Extension/EIS (2004) and supplemental EIR/EIS (April 2007). The Santa Clara Valley Transportation Authority (VTA) is the lead agency for the planned BART extension from the Warm Springs (WSX) terminus south to San Jose and Santa Clara. VTA is Santa Clara County's transit provider and a multi-modal transportation planning organization involved with transit, highways and roadways, bikeways, and pedestrian facilities. The planned 16.3-mile BART extension into Santa Clara County will utilize the easterly UPRR corridor, purchased by VTA in 2002 from Western Pacific RR. This portion of the BART extension is proposed to be constructed at-grade, meaning that streets such as Warren Avenue and Kato Road will be rebuilt as undercrossings to accommodate BART. The BART overcrossings will be separate track structures for BART trains only, with no additional structural crossings.

The Final EIR/EIS for the project, completed in 2004, did not include a discussion of the Fremont UPRR Trail as shown on the City's General Plan or Bicycle and Pedestrian Master Plan.

VTA released a Supplemental EIR/EIS for the project in January 2007. It acknowledged planning for the UPRR trail, but concluded that the trail could not be accommodated within VTA ROW. Section 4.11.4.2, Consistency with Local and Regional Plans and Policies, states:

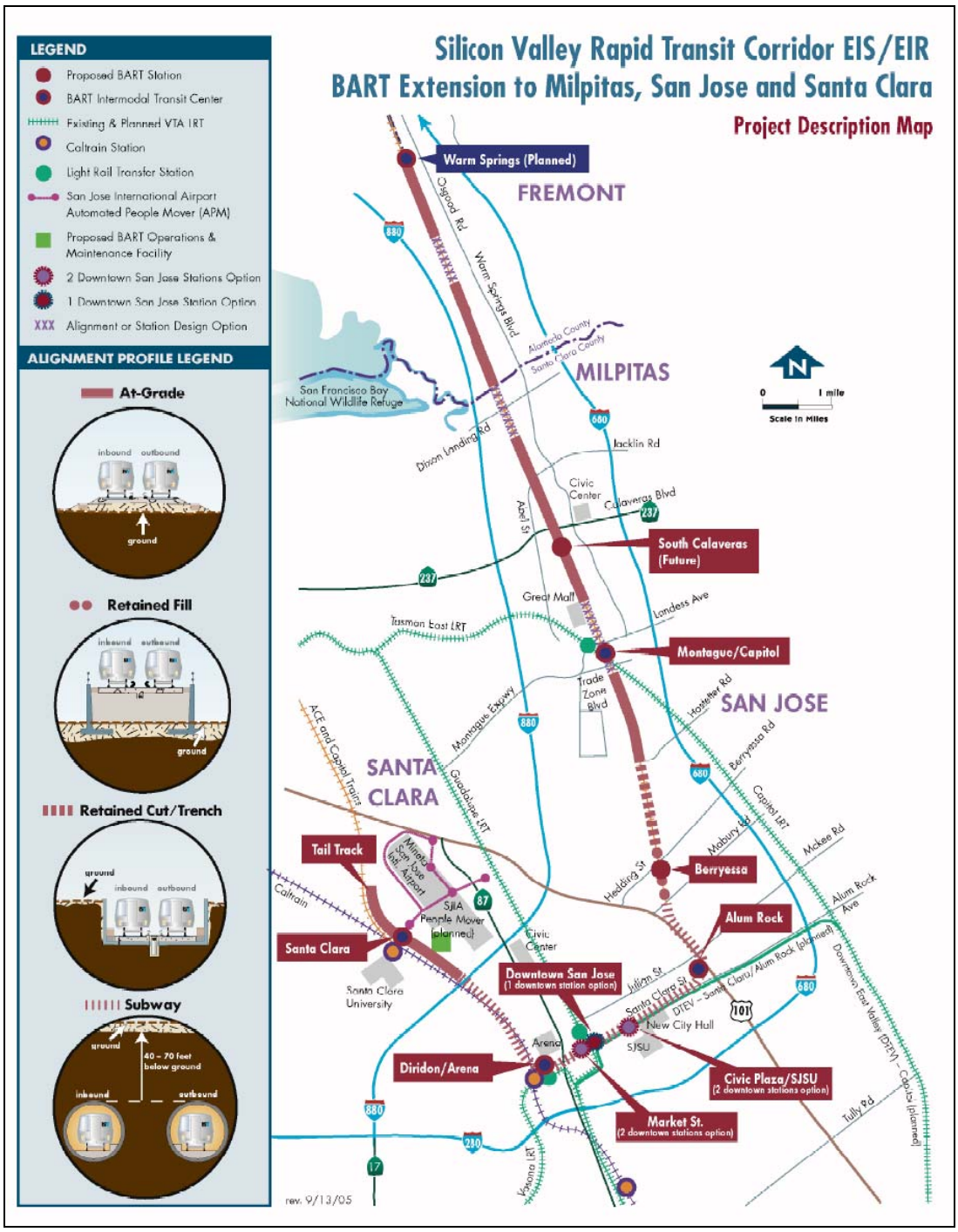
> *"the BART Extension Project would still be consistent with the land use and development objectives of the cities of Fremont, Milpitas, San Jose, and Santa Clara, Alameda County, Santa Clara County, VTA, MTC, ABAG, and BART except for the City of Fremont proposed Union Pacific Rail Trail. Because of the narrow ROW, the proposed trail could not be accommodated on VTA's property along with the Project."*

The report concludes that no mitigation measures are needed to resolve this inconsistency:

> *"The design changes made since the certification of the FEIR result in no new significant impacts related to land use. Therefore, no new mitigation measures are necessary."*

VTA accepted formal comments during February and March 2007, and then will prepare the final EIR/EIS. Preliminary engineering design is ongoing, with a target for construction beginning in 2008 and final completion in 2016.

Preliminary designs for the project do not include a bicycle/pedestrian trail within the corridor, and it is unlikely that a trail would be feasible south of Washington Boulevard, unless the entire UPRR corridor were abandoned, which is not likely in the foreseeable future.



Santa Clara Valley Transportation Authority BART Extension

Source: VTA Website, http://www.svrtc-vta.org

In February 2007, the California Transportation Commission (CTC) approved $364 million in funding for design work on the BART to Silicon Valley project. Funding is expected to complete work to the 65 percent design level, to include station, parking, access and alignment designs

as well as solidify the project's total cost through value engineering. VTA plans to complete the 65 percent design level by the end of 2008, with additional funding from the Federal Transportation Administration's (FTA) New Starts Program to complete final design and construction.

Work already funded, and scheduled for 2008 will include preliminary utility line relocation, with construction to continue until the system becomes fully operational in 2016. If a trail alignment is subsequently determined to be possible during design level studies (as recommended by the City of Fremont's letter to VTA) within the VTA ROW, interim trail alignments on adjacent streets (Class II / III routes) could be utilized until any corridor is available and the trail is completed.

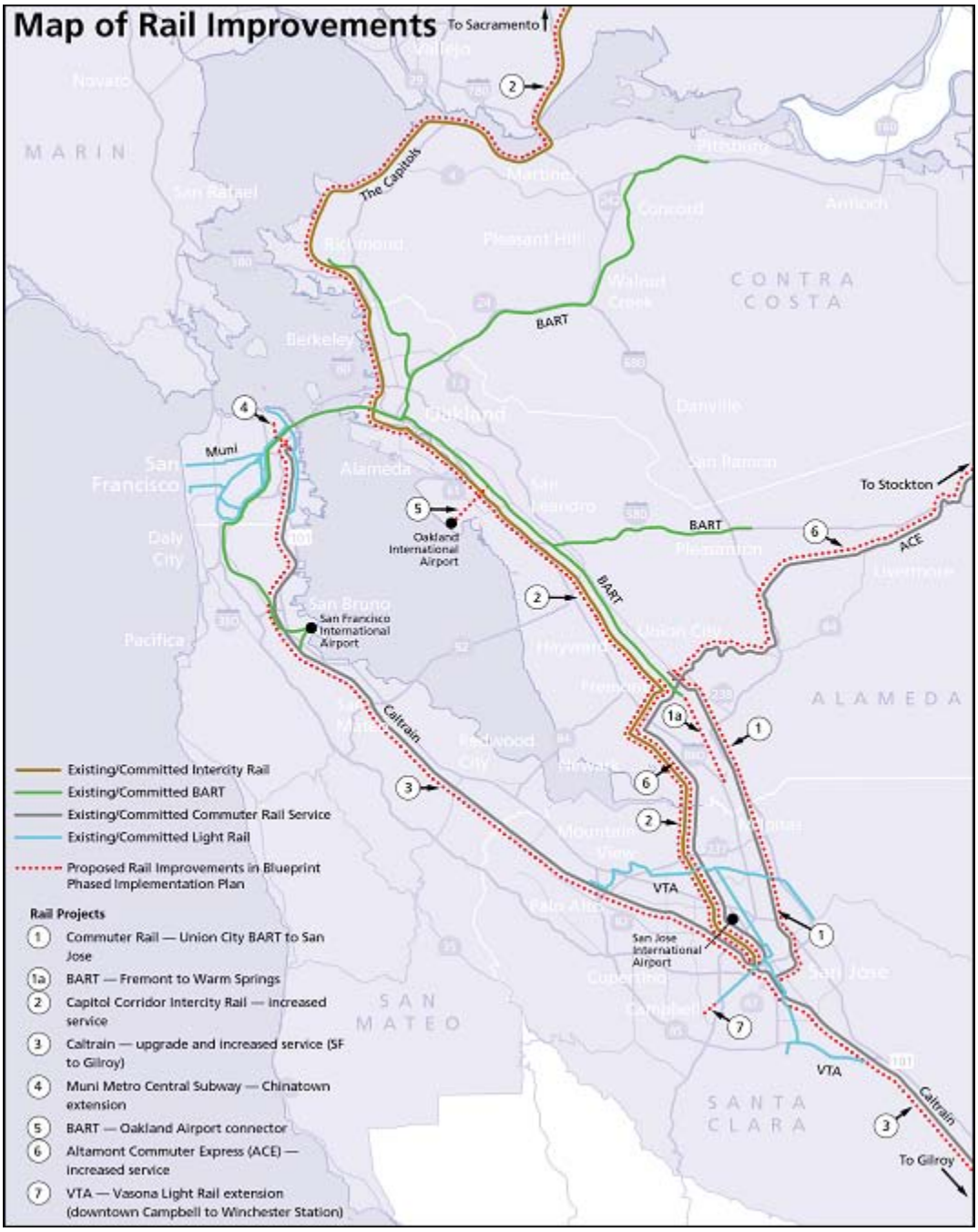
Alameda Countywide Bicycle Plan. The Alameda Countywide Bicycle Plan, developed by Alameda County Congestion Management Agency, was adopted in 2001 and updated in 2006, with a goal to create and maintain an inter-county and intra-county bicycle network that is safe, convenient and continuous. With regard to BART, all stations are to be served by a countywide route or a designated spur route. In addition, the plan states that improved bicycle access to transit stations is a high priority within a one-mile radius of each station. As part of the plan effort, a Bicycle Task Force was established, and a list of countywide bicycle trail project was developed, to provide for a network of trails to serve the region:

- San Francisco Bay Trail
- Alameda Creek Trail
- Niles Canyon Road
- I-680 (east of Mission Boulevard)
- Mission Boulevard
- Washington Boulevard
- Warm Springs Boulevard
- Osgood Road
- Grimmer Boulevard
- Paseo Padre Parkway
- Route 80: SR-84, Niles Canyon Road

MTC Regional Bicycle Plan for San Francisco Bay Area. The Metropolitan Transportation Commission (MTC) oversees Bay Area transportation planning and coordinates the Regional Transportation Plan (RTP). The Regional Bicycle Plan (2001) is a regional plan that prioritizes bikeway facilities for regional significance as part of a network of connected trails. The following regional projects are identified within the City of Fremont:

- Southern Alameda County I-880 Corridor
- Alvarado-Niles-Niles Canyon
- Auto Mall Connector Trail (Bay Trail)
- Alameda County Bay Trail

MTC Regional Rail Plan. MTC also adopted the Regional Rail Plan in September 2007. Portions of the UPRR corridor are identified as an existing/committed commuter rail service segment, with proposed rail improvements. The Altamont Commuter Express (ACE), which crosses the study area near Clarke Drive, is also shown with proposed increased service.



MTC Regional Rail Plan

Source: MTC Website: http://www.mtc.ca.gov/library/PIP/rail_map.htm

The Plan's Vision is to "Ring the Bay with Rail," to connect major cities within the region (termed a "mega-region") with an integrated passenger rail network. In this area, BART would fulfill a major role to serve passengers. The Plan's Vision also includes infrastructure improvements to allow expansion of existing rail lines to accommodate future increased freight and passenger rail service. This includes preservation of existing rail corridors, as well as mechanisms to acquire ROW outside the corridor (where needed) to accommodate future rail growth needs.

Within Fremont, the Plan recommends:

- Expanding the rail network to three or four tracks to accommodate freight.
- Potential improvements to the ACE corridor (including improved trackage, as well as a potential tunnel beneath Niles Canyon) to accommodate future High Speed Rail (HSR) from Los Angeles to the Bay Area.

The Plan identifies an improved passenger rail route between Niles and the Irvington BART Station. MTC's consultant confirmed that the abandoned east-side UPRR line (Segments 1 and 2 of the UPRR Corridor Trail) adjacent to residential back yards between Clarke Drive and the crossover at near the south end of the golf course, will remain abandoned with no plans for rail service (passenger or freight).

MTC's current plans indicate the ultimate build-out of the single-track line that runs along the west side of the golf course and continues south beside future BART to a four-track layout with HSR passenger service combined with UPRR freight, taking up the entire 100' of the ROW width that is assigned to non-BART rail. HSR, and presumably the four-track layout, would continue down the west side of the rail ROW to BART's future Warm Springs station at S. Grimmer Blvd, then HSR would divert over to I-880 to continue south into Santa Clara County.

According to MTC, because of the anticipated use of all of the available ROW for freight, HSR and BART, a trail should not be planned to use any of the ROW south of where BART will come in south of the Golf Course.

Land use strategies associated with implementation of the Regional Rail Plan include:

- Formation of a Regional Rail authority ("Federation") with governance over the rail corridors within the region (this would reduce local authority over use and implementation of the trail).
- Consolidated decision making regarding rail ROW negotiations, implementation, funding, and project prioritization.

The Plan recommends preservation and expansion of existing rail corridors, including mechanisms for acquisition of additional ROW outside existing rail trackage to accommodate potential expansion. How this is implemented has the potential to affect successful UPRR trail implementation. The Plan is largely silent regarding pedestrian and bicycle connections to the regional rail network.

It is recommended that City leaders closely follow Regional Rail Plan implementation, as well as participate to provide input and representation on regional decision-making committees to ensure that UPR trail opportunities for pedestrians, bicyclists, and other alternative recreational modes are considered and included in rail expansion programs.

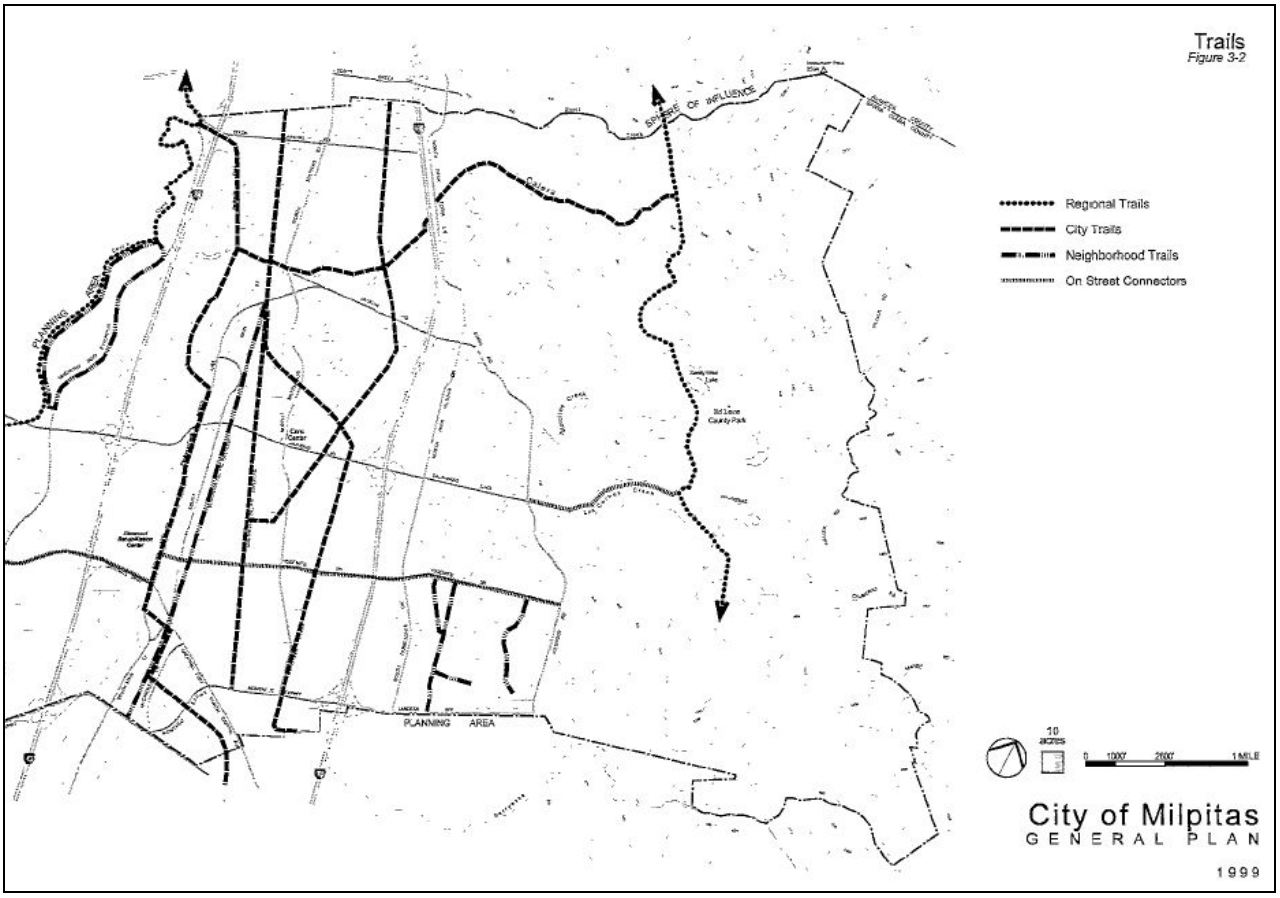
Caltrans Projects within the Study Area. Current projects in the vicinity of the UPRR corridor include the I-880-Mission Boulevard and Warren Avenue Interchange, currently under construction. Trail connections at Warren Avenue and Mission Boulevard will be affected by the interchange project, and local connections to the trail should be provided as part of surface street improvements.

Alameda County Flood Control and Water Conservation District (ACFCWCD). The ACFCWCD is responsible for managing waterways within Alameda County. Within the study area, the creeks are referred to by a letter, and managed as part of Zone 6. These creeks discharge to either Coyote Creek or Mowry Slough. From these waterways, stormwater flows to San Francisco Bay for discharge.

Almost all of these channels cross the UPRR alignment via culverts or open channels. Channelized sections typically consist of a railroad tie retaining wall on each side of the flow area under the track area. In some areas, the channel flows parallel to the alignment (north or south) for a short segment before making a 90-degree turn east or west. Most of the channels have adjacent maintenance access roads alongside the channel. According to ACFCWCD, it is possible that these access roads could be utilized for local trail links if a cooperative licensing agreement for joint use was obtained by the City, and if security, maintenance, and liability issues were adequately addressed.

City of Milpitas General Plan. The *Milpitas General Plan,* which was adopted in 2002, incorporates the *1997 Milpitas Trails Master Plan*, which identified an off-street trail system to *enhance the quality of life within Milpitas by providing an alternative transportation system, expanding recreational opportunities and improving the environmental conditions of those trail corridors that parallel creeks*. The trail system is *intended to provide access to the Town Center, the Great Mall, all of the major employment centers, numerous schools and parks and the Tasman Corridor Light Rail stations.* Approximately 35 miles of trails were identified in the Master Plan, including the UPRR corridor.

The *Milpitas General Plan, Circulation Element* (Section 3.5 on page 3-17 "City Trails" also mentions the UPRR trail, and it is shown on Figure 3.2 of the *General Plan*. A "City Trail" is shown along the UPRR corridor to provide a north-south route to extend beyond the City limits to Fremont and San Jose. The trail is *intended to provide recreation and transportation benefits by linking neighborhoods with employment centers, shopping districts, schools, and transit facilities*. The General Plan does not include a trail connection between the UPRR alignment and Dixon Landing Road, although this road is currently configured as a Class II bikeway.
In addition to the *Milpitas General Plan* and *Trails Master Plan*, a Transit Area Plan is in preparation with expected adoption in 2008, according to Janice Spuller, Assistant Transportation Planner with the City of Milpitas. The draft *Transit Area Specific Plan*, prepared for the specific area near the proposed BART station at the Great Mall Parkway does not clearly designate a continuous trail or bikeway along the UPRR tracks; connections and short lengths of trails parallel to the tracks are indicated. The draft Plan does not indicate trails on a citywide basis.



Milpitas 1999 General Plan – City Trails

Source: City of Milpitas Website

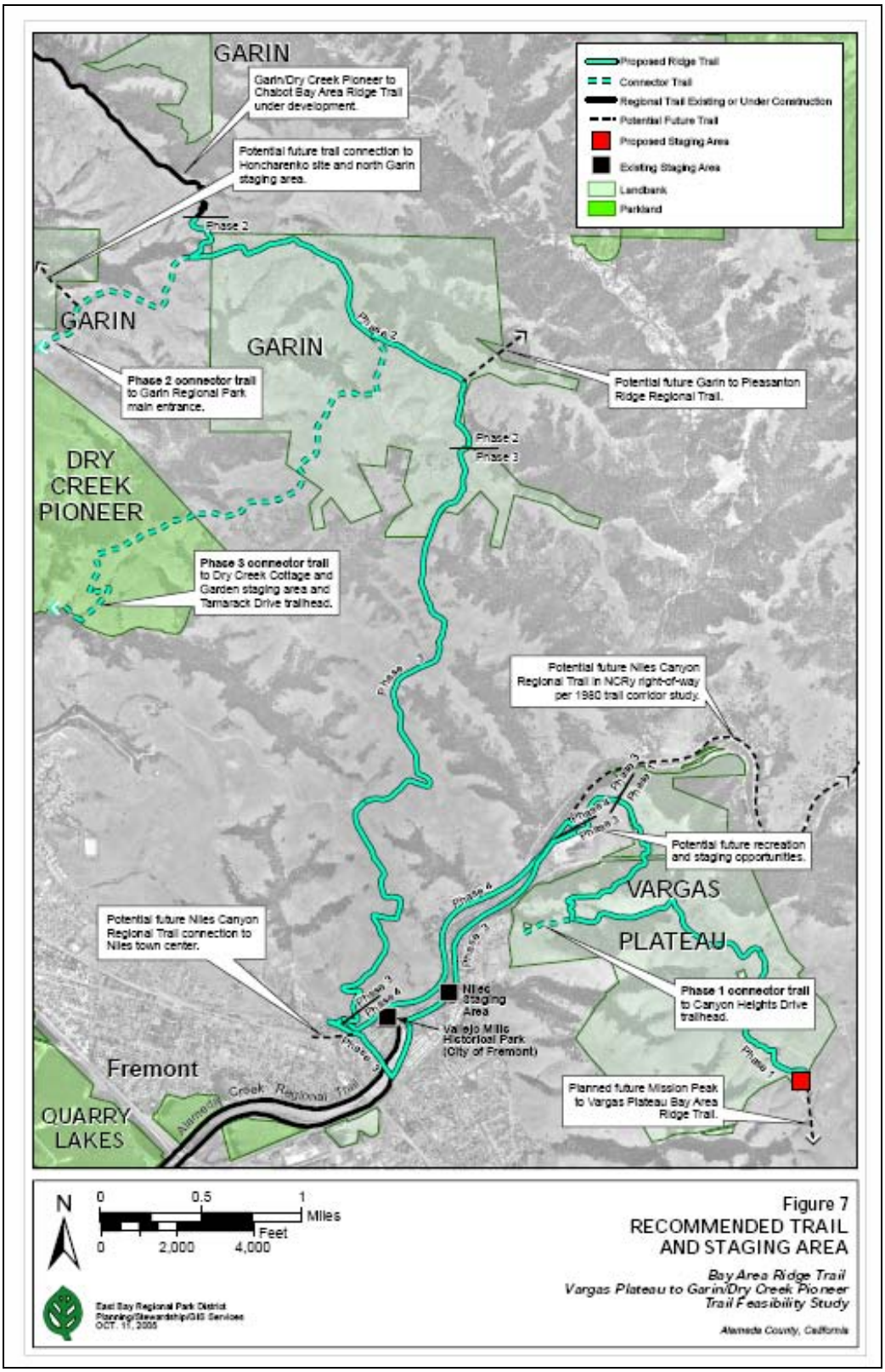
1.3. Regional Trail Connections

There are numerous other trails that provide potential connections to a UPRR trail (**Figure 2**). These include:

- Fremont Bicycle and Pedestrian Plan Proposed Trails
- Alameda Creek Trail (EBRPD)
- Alameda County Bay Trail (ABAG)
- Bay Area Ridge Trail. As discussed previously, EBRPD is in the process of studying potential trail connections from Mission Peak north to Vargas Plateau and Niles Canyon.
- Niles Canyon Road (SR-84): This proposed Alameda County Bike Route leads to several historical landmarks in the Niles Planning Area and along Niles Canyon Road (Scenic Highway Corridor) and provides a link to the Bay Area Ridge Trail.
- I-680 Freeway, east of Mission Boulevard: This proposed County Bike Route leads to Sunol Valley and the Mission Peak Regional Preserve. It also provides a link to the Bay Area Ridge Trail.
- Juan Bautista De Anza National Trail: A segment of this historic trail lies in Fremont from the south on Warm Springs Boulevard and then continuing on Mission Boulevard.
- Trail connections south through Milpitas (City of Milpitas General Plan)

Bay Area Ridge Trail, Vargas Plateau to Garin/Dry Creek Pioneer Trail Feasibility Study (2005) This study was prepared by East Bay Regional Park District (EBRPD) to determine a preferred trail alignment for a segment of the Bay Area Ridge Trail between Vargas Plateau Regional Park and Garin Regional Park, as well a staging area which would serve both the trail and Vargas Plateau Regional Park. The project objective is a continuous, multi-use, ridgeline trail accessible to hikers, bicyclists and equestrians year-round, connecting parks, other regional trails and local communities, and capable of being developed and opened to the public in the near term.

The recommended trail route for this portion of the Ridge Trail is proposed to use the Alameda Creek Trail in Niles Canyon, as well as staging area/trailheads at Vallejo Mills Historic Park. The study also recommends a connector trail to provide neighborhood access to Canyon Heights Drive via an existing ACWD access road north of the UPRR study area.

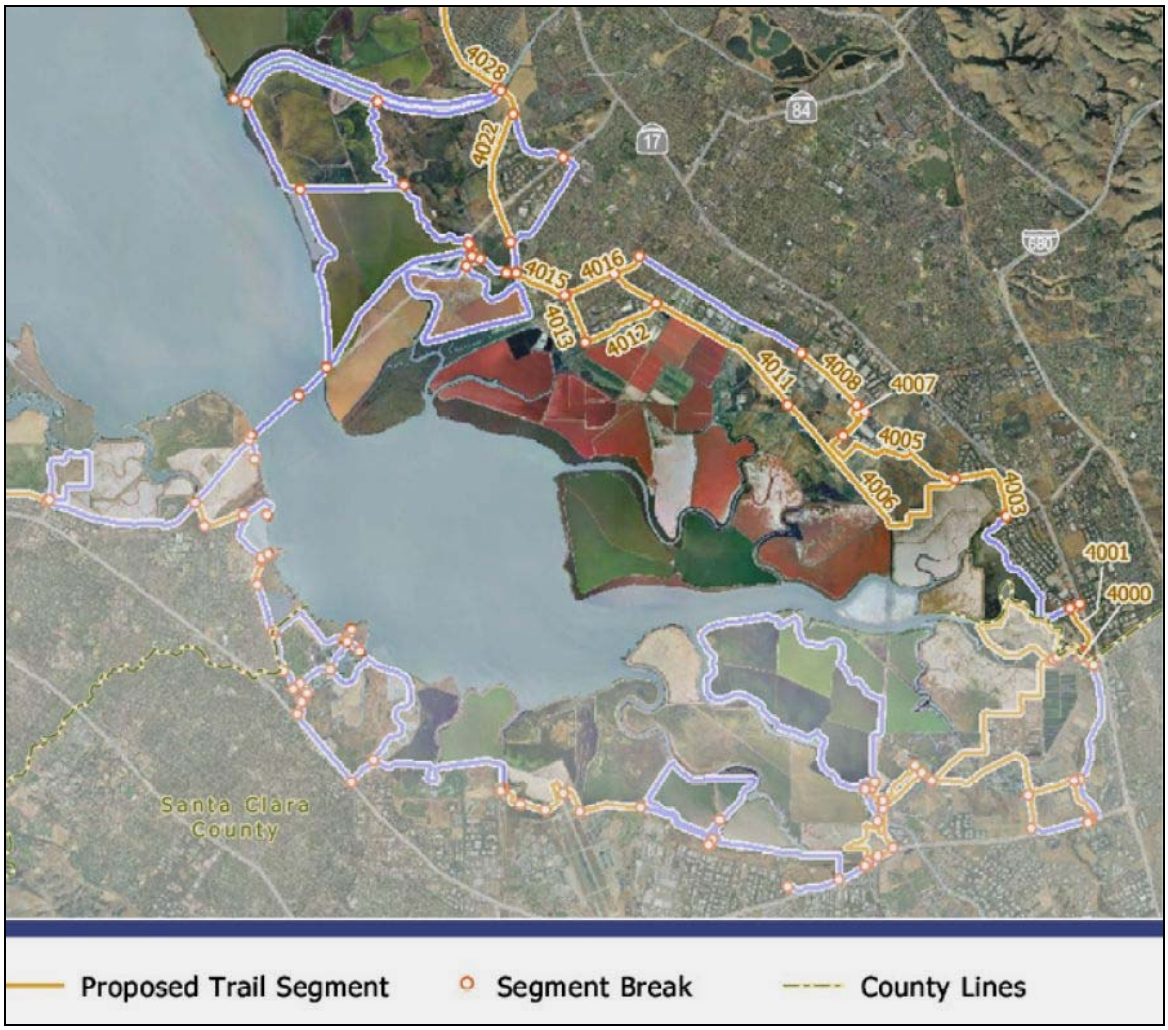


Bay Area Ridge Trail - Vargas Plateau to Garin/Dry Creek Pioneer Trail

Source: East Bay Regional Park District

Another potential ridge trail connector was evaluated, which would utilize the ACWD access road or SFWD Niles Reservoir access road, exiting to the Clarke Drive/Canyon Heights Drive intersection. The trail would continue west on Clarke Drive, cross Canyon Heights Drive, cross the UPRR at the existing at-grade crossing, and continue on the unpaved shoulder of Clarke Drive. This segment was considered highly constrained due to safety issues along Clarke Drive, potential acquisition issues, and concerns about neighborhood intrusion. However, potential Bay Area Ridge Trail trail connections to the UPRR alignment either at this location or along Canyon Heights should be considered when this project is implemented.

San Francisco Bay Trail. The Association of Bay Area Governments (ABAG) oversees the implementation of this approximately 400-mile cross-county trail to encircle San Francisco Bay. Senate Bill 100 (SB 100), enacted in 1989, requires the nine Bay area counties to make efforts to connect its existing trail system to the Bay Trail. The Fremont portion of the Bay Trail is a combination of bikeways and walkways west of Cushing Boulevard. The Bay Trail comes closest to the UPRR alignment at the south City limits. Logical connections between the Bay Trail and the UPRR trail would occur at Dixon Landing Road in Milpitas.



Fremont Area Bay Trail Segments

Source: San Francisco Bay Trail Project Gap Analysis Study, September 2005

Trail Connections South Through Milpitas. A similar opportunity potentially exists to construct or extend a trail along the UPRR ROW and VTA/BART tracks south of Fremont, within the City of Milpitas, to make the trail envisioned in this Feasibility Study a more regional facility. The current concept portrayed in the Feasibility Study has the southern end of the UPRR trail as connecting to the Bay Trail west of Hwy 880 via Dixon Landing Road, and potentially to the south, as shown on the *Milpitas General Plan.*

The current VTA plan for the SVRT Extension of BART from Fremont through Milpitas, San Jose and to Santa Clara does not call out a bike path or trail within or adjacent to the SVRT BART ROW. Stacey Cocke, Transportation Planner for SCVTA, indicated that VTA would coordinate with the Cities to incorporate City-led plans of bikeways and trails within the station areas.

According to Janie Spuller of the City of Milpitas, it is not expected that a trail would be located within the VTA ROW, and a trail would have to be separate but parallel trail if the City were to pursue such a trail. Currently, the City of Milpitas has not allocated any funding to develop a UPRR trail in its CIP.

The potential conflicts/inconsistencies between the UPRR Trail shown on the City of Milpitas General Plan, Trails Master Plan, draft Transit Area Plan and current BART/VTA planning have not been resolved and will presumably be addressed in the upcoming Transit Plan.

1.4. UPRR Corridor Use and Strategic Planning

At the north end of the study area, the trail route includes approximately 1,200 feet of the active rail line that serves the Altamont Commuter Express (ACE), a passenger rail line that connects Silicon Valley with the San Joaquin communities of Tracy and beyond. This line has been recommended for expansion by the MTC. Portions of the alignment south of this area to Washington Boulevard have been abandoned (eastern tracks), and the rails have been removed. Beginning north of Paseo Padre Parkway, the eastern set of tracks is proposed for use as the BART extension, with a new rail alignment, transitioning to the western set of tracks south of Washington Boulevard.

The westerly set of tracks is in active use, and this use continues to the southern study boundary. South of Grimmer, the westerly rail portion of the overall corridor contains multiple side rails and spurs, most notably serving the NUMMI automobile factory off Kato Road. Active rail use in this area is projected to continue indefinitely.

2. Environmental and Land Use Issues

2.1. Land Use

Land use adjacent to the UPRR corridor varies from residential uses in the north to heavy industrial uses in the south portion of the study area. In addition to neighborhood connections to existing local streets, parks and schools, there is the potential to connect the trail to regional transit facilities including the proposed Irvington and Warm Springs BART stations. Large industrial parcels and office parks in the southern portion of the study area could utilize the trail for recreational as well as alternative transit. Some redevelopment of warehouse and office park land-uses including conversion to high density residential is taking place at the south end of the study area. The primarily commercial irrigation area is also undergoing redevelopment. These changes in land use provide potential opportunity to incorporate trails and trail links.

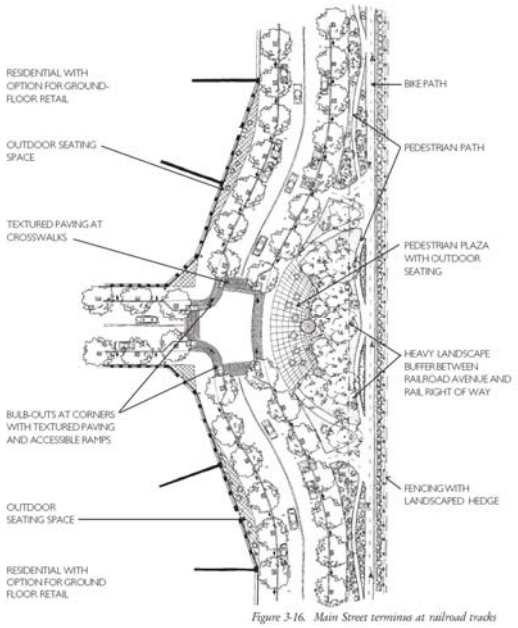


Figure 3-16. Main Street terminus at railroad tracks

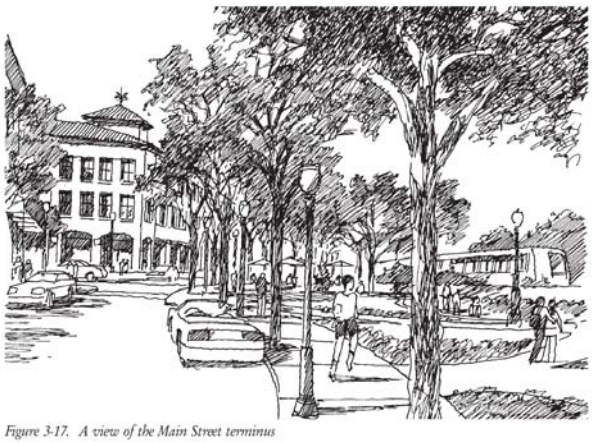


Figure 3-17. A view of the Main Street terminus

Irvington Concept Plan

Source: City of Fremont Website

2.2. Street, Railroad and Trail Crossings

The UPRR corridor intersects streets and other utility easements with a variety of overcrossings, underpasses, and at-grade intersections. Social trails exist throughout the corridor where informal crossing of the rail corridor also occurs. The UPRR alignment currently includes 5 overpasses, 3 at-grade crossings above street underpasses, and 9 at-grade crossings or social trails. Of the five overpasses, none are wide enough to accommodate both active rail and a trail alignment. **Table 2-1** lists the existing street crossings.

Table 2-1. UPRR/Street Crossings

Street	Overpass (UPRR alignment above street)	Underpass (UPRR under elevated street)	At-Grade Crossing
Segment 1			
Clarke Drive			●
Orchard Drive	●		
Pickering Avenue		●	
Morrison Canyon Road			●
Mission Blvd.	●		
Segment 2			
Central Park			●
Paseo Padre Parkway	● (planned)		
Segment 3			
Union Street			●
Washington Blvd.		● (planned)	
Segment 4			
Blacow Road			●
Auto Mall Parkway		●	
Tavis Road/Prune Drive			●
South Grimmer Blvd.	●		
Segment 5			
Warm Springs Court/Lopes Court			●
Mission Blvd.	●		
Warren Avenue	● (planned)		●
Kato Road	● (planned)		●

2.3. Utilities and Infrastructure

The UPRR corridor serves as a primary north/south corridor for many underground utilities. In addition, overhead PG&E transmission lines parallel the ROW and cross the corridor in several locations. Utilities within, or adjacent to, the corridor include:

- Pacific Gas and Electric Company
- MCI Fiber Optic Cable
- Railroad signal lines
- Kinder Morgan Pipeline
- Standard Oil Utility Easements
- Sanitary Sewer Easements
- Storm Drainage Easements
- Proposed Easements for BART, including:
    - Construction access easement
    - Soundwall easement
    - Telephone easement
    - Open channel/drainage easement

In general, a paved trail can be placed over an underground utility, provided that the utility is adequately marked, and allowance is made in the trail design for maintenance and repair. Typically, repaving of the overlying trail following maintenance is the responsibility of the trail owner. An encroachment permit, agreement, or other form of approval is necessary from the property owner holding the overlying rights, and often some form of agreement is also necessary from the utility, and often also the railroad. Undercrossings with utility conflicts represent another constraint, but most often can be relocated at an additional (sometimes substantial) expense to trail construction. Occasionally a utility will share in the costs of relocation.

2.4. Flooding and Hydrology

The UPRR corridor lies primarily within the Laguna Creek watershed, with the area south of Warren Avenue draining towards Milpitas. The Laguna Creek basin occupies approximately 25 square miles and is comprised of a series of small named and unnamed tributaries which drain the surrounding hillsides and Mission Peak. This creek system is managed as Zone 6 by the Alameda County Flood Control and Water Conservation District (ACFCWCD) (**Table 2-2**).

Table 2-2. Creeks Crossing the UPRR Corridor

Creek Name	ACFCWCD Designation	Location/UPRR Crossing
Morrison Creek	Line M	Morrison Canyon Road
Mission Creek	Line L	Central Park
Sabercat Creek	Line K	North of Blacow Road
Unnamed	Line I	North of AutoMall Parkway
Canada del Aliso	Line J	South of AutoMall Parkway
Unnamed	Line H	North of Grimmer Blvd.
Agua Caliente	Line F	North of Mission Blvd.
Agua Fria	Line D	Mission Blvd.
Unnamed	Line C	Warren Ave/NUMMI
Unnamed	Line B	Kato Road

Laguna Watershed has also been extensively studied to determine the extent of problems related to flooding, bank erosion, and sediment deposition. In 2001, Questa completed a study identifying areas with erosion or sediment deposition problems.

The Laguna Creek Watershed is located within the California Coast Range geomorphic province. This province is characterized by a tectonic plate boundary that has a wide range of topographic relief. The San Andreas fault and its associated faults such as the Hayward fault dominate the area. Seismic activity is common within the area. Two traces of the Hayward fault are mapped through the City of Fremont. The main trace of the fault is on the southwesterly side of the knoll on which the City government building and former police station are constructed

(Jones and Stokes, 1999). Lake Elizabeth and Stiver's Lagoon are within the Hayward fault zone and exhibit sag pond characteristics.

The watershed is generally divided into three basic geomorphic segments. The upper segment is characterized by areas east of I-680 on the slopes of Mission Peak. This area is characterized by steep upper hill slopes that have significant amounts of mass wasting and gully formation. This is a major source area for sediment. Active erosion is occurring throughout the upper watershed. The stream beds are steep and nearly all sediment is transported downstream from these areas. It should be noted that the soils in the upper zones tend to be fine-grained clay-based soils of either the Diablo- or Misholm-Los Osos association. Many current and historic landslides supply sediment to creek reaches. These slides are typically shallow soil slumps and sloughs.

The mid portion of the watershed is characterized by moderate slopes and generally has significant residential development. This mid portion can be generally thought of as the start of the alluvial fan areas where channel gradients are reduced. Historically, the stream courses in these locations would migrate/move across the alluvial fan. Residential land use has reduced erosion rates in these areas and stabilized the channel pattern for many of the creeks. The channels in this area commonly have significant transport capability. The UPRR corridor bisects this portion of the watershed.

The third portion of the watershed represents the lowlands and bay fringe areas. These areas have predominately urban land use with little connected open space and high amounts of impervious surfaces. Geomorphically these areas represent the bay land plain areas. Channels exit the alluvial fan and slopes are reduced. Channels in these areas typically have low gradients and sediment naturally accumulates in these areas.

The 2001 Questa study identified potential projects where sedimentation, erosion and riparian enhancement could be implemented to minimize existing problems. Within the UPRR study area, there are two potential projects:

- Morrison Canyon Road east of the UPRR ROW, where the creek channel parallels the rail line. In this area, creek realignment and riparian restoration were identified, as well as creation of a sediment detention basin to trap material transported from the upper creek area.
- Mission Creek near the outlet at Lake Elizabeth (golf course), where a sediment detention basin could be created to allow management of sediment before it enters the Lake. Creation of this ponding area may necessitate realignment of the existing trail system.

Trails implementation combined with habitat enhancement is often done to maximize grant funding opportunities, since some grants are exclusively available related to water resources, habitat restoration, and/or public access for environmental education. Funding options for trails in these two areas could be explored as part of a larger enhancement project.

2.5. Wildlife Habitat

The lands within the northern part of the UPRR corridor consist of either active or abandoned (rails removed) rail line. The width of the corridor generally varies between 60 and 100 feet. Within the corridor, habitat consists of disturbed land that may include a ballast (rock) surface,

railroad ties and rails, ruderal vegetation, and occasional trees or shrubs at the edges. Several created creek channels cross the alignment in channelized segments or culverts. The corridor may provide linear connections for wildlife using adjacent habitat areas, such as Central Park and Stivers Lagoon. Outside of the Central Park area, habitat value as a wildlife corridor is limited by the overpasses and major streets, which bisect the corridor.

Table 2-3 lists wildlife species with the potential to occur within the project area, as identified in studies undertaken for the BART extension projects. Wildlife impacts associated with the BART extension will be mitigated as part of that project, and it is not expected that a trail on existing disturbed lands would incrementally affect wildlife in the project vicinity.

Table 2-3. Listed Species (Endangered, Threatened, Special Status, etc.) with Potential to Occur in the Vicinity of the UPRR Trail[12]

Scientific Name	Common Name	Fed/State/ CDFG or CNPS	Preferred Habitat	Likelihood of Occurrence in the Project Area
Accipiter cooperii	Cooper's hawk	-/-/ SC	Breed in deciduous, coniferous, and mixed forests; oak woodlands; deciduous riparian habitats; woodlots; and suburban and urban areas.	Moderate; historic records and suitable habitat; none observed during 2002 BART EIR survey. Suitable nest sites occur in the riparian habitat adjacent to Lake Elizabeth. Observed in the BART project corridor in 1992, may have been nesting in the vicinity of Stivers Lagoon.
Agelaius tricolor	Tricolored blackbird	-/-/SC	Nomadic resident of Sacramento-San Joaquin Valley and low foothills; nests colonially in vicinity of fresh water, marshy areas. Colonies prefer heavy growths of cattails and tules.	High; observed within the BART project corridor; low quality nesting habitat. Suitable foraging and resting habitat is present in the BART project corridor, especially in ruderal forb-grassland and emergent seasonal wetland habitat.
Ambystoma californiense	California tiger salamander	T/-/SC	Annual grasslands and grassy understory of valley-foothill hardwood habitats; needs underground refuges during dry season, need vernal pools or other seasonal water sources for breeding.	High, observed in a seasonal wetland within the BART project corridor. Suitable breeding habitat at the 0.7-acre seasonal wetland between the former SP and WP railroad tracks south of Washington Boulevard, and at the Irvington Station Site and New Marsh. Observed in 2003 seasonal wetland south of Washington Blvd.
Aquila chrysaetos	Golden eagle	-/-/SC	Nests and winters in rolling foothills mountain areas, sage-juniper flats, desert. Cliff- walled canyons provide nesting habitat, also large trees in open areas.	None; no suitable habitat.
Ardea herodias	Great blue heron	-/-/- G5/S4	Colonial nester in tall trees, cliffsides, and sequestered spots on marshes. Rookery sites in close proximity to foraging areas: marshes, lake margins, tide-flats, rivers and streams, wet meadows.	Expected to use habitat in BART Biological Resources Study Area

[1] California Department of Fish and Game, 2006. California Natural Diversity Database. Niles, Milpitas, and San Joes West Quads.
[2] Jones & Stokes, 2006. BART Warm Springs Extension Final Environmental Impact Statement. Volume 1. Section 4.7.

Scientific Name	Common Name	Fed/State/ CDFG or CNPS	Preferred Habitat	Likelihood of Occurrence in the Project Area
Astragalus tener var. tener	Alkali milk-vetch	-/-/1B	Playas, valley and foothill grassland and vernal pools; often on alkaline soils; blooms Mar-June; el. range 1 - 60 m.	None; no suitable habitat
Athene cunicularia	Burrowing owl	-/-/SC	Found in lowland areas throughout California. Prefers open, dry, and nearly level grassland habitats. Feeds on insects, small mammals, and reptiles. Nests and roosts in burrows.	High, observed nesting in project corridor during BART Biological Resources Study. Suitable habitat occurs north (as far north as the city's golf course) and south of Paseo Padre Parkway and beteen the former SP and WP railroad tracks south of Washington Boulevard. Five burrowing owls and three active nests were observed in the BART Biological Resources Study area during the June 2002 survey. All nests were located at the proposed Warm Springs Station Site.
Campanula exigua	Chaparral harebell	-/-/1B	Rocky sites, usually on serpentine in chaparral, 300-1250m.	None; no suitable habitat.
Cenrtomadia parryi ssp. Congdonii	Congdon's tarplant (=spikeweed)	-/-/1B	Valley and foothill grassland (alkaline); blooms May-Nov; elevation range 1 - 230 m.	High; known occurrences near BART site and suitable habitat present. Suitable habitat is present, but surveys conducted as part of the BART EIR indicate species is absent from study area[3]
Charadrius alexandrinus nivosus	Western snowy plover	T/-/SC	Coastal beaches above the normal high-tide limit in flat, open areas with sandy or saline substrates.	None; no suitable habitat.
Chorizanthe robusta var. robusta	Robust spineflower	E/-/1B	Cismontane woodland, coastal scrub, coastal dunes, sandy terraces and bluffs or in loose sand 3-120m.	None; no suitable habitat
Cordylanthus maritimus ssp. palustris	Point Reyes bird's-beak	-/-/1B	Usually in coastal salt marsh with salicornia, distichlis, jaumea, spartina, etc. 0-15M.	None; no suitable habitat
Elanus leucurus	White-tailed kite	-/-/- G5/S3	Nests in dense oak, willow, or other tree stands near open grassland meadows, farmlands, and emergent wetlands.	High, historic records and suitable nesting habitat within the project area. Has been observed foraging in the BART study area (Ohlone Audubon Society unpublished bird list). None observed 2002 BART EIR surveys.
Emys marmorata	Western pond turtle	-/-/SC	Found throughout California in ponds, marshes, rivers, and irrigation canals with muddy or rocky bottoms and emergent vegetation.	Moderate; Open water in existing ponds or streams offer moderate-quality habitat for western pond turtles.None observed during wildlife surveys in 2002. One CNDDB record of occurrence near Sunol, approximately 3 miles east of the BART project corridor.
Eryngium aristulatum var. hooveri	Hoover's button-celery	-/-/1B	Vernal pools.	None; no suitable habitat

[3] Jones and Stokes, 2006. BART Warm Springs Extension Final Environmental Impact Statements. Volume 1. Section 4.7. Table 4.7-3.

Scientific Name	Common Name	Fed/State/ CDFG or CNPS	Preferred Habitat	Likelihood of Occurrence in the Project Area
Geothlypis trichas sinuosa	Saltmarsh common yellowthroat	-/-/SC	San Francisco Bay region in fresh and saltwater marshes with thick continuous cover to water surface, tall grasses, tule patches and willows for nesting.	None; no suitable habitat.
Lasthenia conjugens	Contra Costa goldfields	E/-/1B	Cismontane woodland, playas, valley and foothill grassland, vernal pools/mesic, blooms Mar-Jun, 0 - 470 m.	None; no suitable habitat
Laterallus jamaicensis coturniculus	California black rail	-/T/-	Mainly inhabits salt marshes bordering large bays. It inhabits saltwater, brackish, and freshwater marshes. Nests and forages in dense pickleweed.	There is no habitat for this species within the study area, and no black rails were observed during the 2002 field surveys. .
Lepidurus packardi	Vernal tadpole shrimp	E/-/-	Found in vernal pools and seasonal wetlands in the Central Valley and Sacramento-San Joaquin Delta regions. Forage in dense vegetation on the bottoms of pools.	Potential habitat is present within the seasonal wetland located between the former SP and WP railroad tracks, south of the optional BART Irvington Station site. Known to occur in the SF Bay National Wildlife Refuge.
Malacothamnus arcuatus	Arcuate bush mallow	-/-/1B	Chaparral.	None; no suitable habitat
Melospiza melodia pusillula	Alameda song sparrow	-/-/SC	Breeds in low shrubby growth and thickets in a variety of habitats, but most often in moist and swampy places. Resident of salt marshes bordering San Pablo Bay.	Moderate; Suitable habitat present, as identified within BART Biological Resources Study.
Malacothamnus hallii	Hall's bush mallow	-/-/1B	Chaparral, some populations on serpentine, 10-550M.	None; no suitable habitat.
Navarretia prostrate	Prostrate navarretia	-/-/1B	Mesic sites in alkaline valley and foothill grassland, coastal scrub, vernal pools.	None; no suitable habitat
Oncorhynchus mykiss irideus	Steelhead-central California coast	T/-/-	Pacific Ocean, spawn in coastal streams and rivers, over gravel beds.	Low; Steelhead are known to occur in Coyote Creek, which Mission Creek flows into at San Francisco Bay, and its tributaries. Mission Creek, a channelized and culverted creek, is unlikely to support a population of steelhead. Underground culverts downstream probably prevent adults from migrating to upper reaches.
Plagiobothrys glaber	Hairless popcorn-flower	-/-/1A	Coastal salt marshes and alkaline meadows. 5-180M.	None; no suitable habitat
Rallus longirostris obsoletus	California clapper rail	E/E/-	Restricted to salt marshes and tidal sloughs; usually associated with heavy growth of pickleweed.	None; no suitable habitat.

Scientific Name	Common Name	Fed/State/ CDFG or CNPS	Preferred Habitat	Likelihood of Occurrence in the Project Area
Rana aurora draytonii	California red-legged frog	T/-/SC	Permanent and semi-permanent aquatic habitats, such as creeks and coldwater ponds, with emergent and submergent vegetation and riparian species along the edges.	None; nearest record 2.2 mil from habitat within project site; no CRLF detected during protocol level surveys in 2002[4]. Potential habitat occurs at South Tule Pond, south of Walnut Avenue and at New Marsh located within Fremont Central Park, although these sites are known to be inhabited by predators of the CRLF.
Reithrodontomys raviventris	Salt-marsh harvest mouse	E/E/-	Salt marshes with a dense plant cover of pickleweed and fat hen adjacent to an upland.	None; no suitable habitat.
Sorex vagrans halicoetes	Salt-marsh wandering shrew	-/-/SC	Middle elevation salt marsh habitats with dense growths of pickleweed.	None; no suitable habitat.
Streptanthus albidus ssp. peramoenus	Most beautiful jewel-flower	-/-/1B	Chaparral, annual grassland, on ridges and slopes on serpentinite outcrops, 450-3,200'	None; no suitable habitat
Suaede californica	California seablite	E/-/1B	Margins of coastal salt marshes. 0-5M.	None; no suitable habitat.
Tropidocarpum capparideum	Caper-fruited tropidocarpum	-/-/1B	Valley and foothill grassland on alkaline clay.	None; no suitable habitat.
Vulpes macrotis mutica	San Joaquin kit fox	E/T/-	Saltbrush scrub, grassland, oak, savanna, and freshwater scrub	None; no records and project area is outside current range for this species

E – Endangered under the Federal or State Endangered Species Act

T – Threatened under the Federal or State Endangered Species Act

SC – California species of concern

Source: CNDDB search for three quadrangles surrounding the project area. California Native Plant Society (CNPS)

1B – Plant species that are rare, threatened, or endangered in California and elsewhere

[4] Jones and Stokes, 2002. Results of the California Red-Legged Frog Site Assessment and Protocol-Level Surveys in the Proposed BART Warm Springs Extension Project Area in the City of Fremont.

3. Opportunities and Constraints

This section of the Feasibility Study discusses opportunities and constraints to constructing a trail within, or near the UPRR corridor.

Trail *opportunities* are improvements or elements that enhance, simplify or mitigate trail issues. Opportunities include conditions such as:

- Available public ROW
- Few utilities or conflicts with fences and infrastructure
- Sufficient overhead clearance
- Adequate separation from adjacent uses
- No significant vegetation
- Separation from natural areas such as creeks or wetlands
- Adequate visibility
- Minimal elevation changes

Constraints are those conditions identified that may hinder or delay trail implementation. Constraints include conditions such as:

- Lack of public ROW
- Significant utilities, utility crossings, or multiple jurisdictions within ROW
- Lack of overhead clearance
- Insufficient separation from adjacent uses, such as active rail line
- Trees, shrubs and landscaping within trail route
- Lack of separation from natural areas
- Inadequate visibility
- Significant elevation changes, including grade changes along bank/berm
- Hazardous materials present in the upper railroad ballast

Trail opportunities and constraints are discussed in **Tables 3-1** through **3-5** and shown in **Figures 3-1** through **3-3.**

Table 3-1. Trail Opportunities and Constraints
Segment 1: Clarke Drive to Mission Boulevard

Description: Residential area with relatively narrow rail corridor. Active and abandoned rail lines are embanked (raised) north of Pickering Ave.

Issues: Lateral separation from active rail line north of "wye" where abandoned rail corridor begins.
Need for safe and secure trail and sidewalk connections to surrounding neighborhoods, including existing links along streets.
Design of trail/rail crossing at Clarke Drive.
Need for screening of backyards where the trail would be elevated.

Opportunities: Creation of a park in the "triangle" area north of Orangewood Drive where the rail lines form a wye

Constraints: Width along south side of Clarke Drive, particularly to the west.

Area 1.1: Clarke Drive / Old Canyon Road / Canyon Heights Drive (north terminus)

	**1.1.1**: Clarke Drive (city) **View**: Looking west toward Old Canyon Road and Vallejo Mills Historic Park **Opportunity**: Possible trailhead/parking area, connection to Alameda Creek trail. **Constraints**: Limited width along south side of Clarke Drive. **Needs**: 1) Sidewalk or path along south side of Clarke Drive from rail-side trail to parking area. 2) Possible path extension to existing parking lot along Alameda Creek north of Old Canyon Road. Would require crosswalk at Clarke / Old Canyon intersection. 3) Pedestrian crossing improvements at rail crossing
	**1.1.2**: Clarke Drive (city) **View**: Looking east toward Canyon Heights Drive **Opportunity**: Access from east side of trail corridor (residences, Vallejo Mill School). Alameda County Flood Control parcel at corner, possible sign/entryway opportunity. Potential Bay Area Ridge Trail connection via public property east of Canyon Heights Drive (See Vargas Plateau discussion). **Constraints**: Width along south side of Clarke Drive. **Needs**: 1) Walkway along south side of Clarke to Canyon Heights Drive. 2) Pedestrian crossing improvements at rail crossing.

Area 1.2: Clarke Drive to "Wye" Junction

	**1.2.1**: Existing graded access along south side of Niles Canyon Mobile Estates, between Clarke Drive and wye junction **View**: Looking east from wye junction toward Clarke, along active UPRR rail line. Rail line is approximately 25' above surrounding homes. **Opportunity**: Trail could follow existing graded access, wide enough for a truck. Possible private connection at end of Rail Court would create an amenity for Niles Canyon Mobile Estates residents. **Constraints**: Trail must be at least 25 ft. from active line, i.e. on slope or at base. Proximity to mobile homes; need for enhanced landscape buffer. If trail follows area north of tracks as shown, a tunnel would be needed to continue south of the active line.
	**1.2.2**: East side of active UPRR rail line between Clarke Drive and wye junction (alternative to west-side alignment shown in Photo 1.2.1) **View**: Looking east from the wye junction toward Clarke Drive **Opportunity**: Trail on east side of rail line (through vegetated area shown) would eliminate need for tunnel under tracks at the wye. **Constraints**: Trail must be at least 25 ft. from centerline of active line, placing trail on slope or near base. Proximity to homes. Dense vegetation, including native species, and wet areas would make construction difficult. Would eliminate existing screening to adjacent backyards.

Area 1.3: Alameda Creek Trail and Mission Boulevard to "Triangle" Area

	**1.3.1**: Alameda Creek Trail **View**: Looking west from just east of Mission Boulevard undercrossing and access point (note gate at upper left) **Opportunity**: Link to UPRR Corridor Trail through vacant parcel between Alameda Creek and active rail line, next to west edge of Niles Canyon Mobile Estates. **Constraints**: None noted **Needs**: Add paved trail spur from Alameda Creek Trail to Mission Boulevard access point shown at upper center left.
	**1.3.2**: Vacant parcel bounded by west edge of Niles Canyon Mobile Estates, Alameda Creek Trail, Mission Boulevard, and active rail line **View**: Looking south along west edge of Niles Canyon Mobile Estates from fence along Alameda Creek Trail **Opportunity**: Key link between Alameda Creek Trail (which connects the Bay to Niles Canyon) and the UPRR Corridor Trail. **Constraints**: None identified
	**1.3.3**: South edge of Niles Canyon Mobile Estates between Mission Boulevard and triangle parcel **View**: Looking east **Opportunity**: Trail segment to connect Alameda Creek Trail to tunnel under active rail line, continuing south along UPRR corridor **Constraints**: Need for maintenance vehicle access on trail.

Area 1.4: "Triangle" Parcel to Orchard Drive

	**1.4.1**: Triangle parcel within wye junction area between active UPRR line and abandoned tracks **View**: Looking north from the south end of the triangle. Tops of mobile homes (white) are visible beyond active rail line. **Opportunity**: Surplus area between active rail line and abandoned rail lines has potential for spoils and ballast disposal, habitat enhancement or extension of neighborhood park area at Orchard Drive, especially if the Orchard Drive trestle is removed and the trail follows surface grade in this area. Existing native vegetation on site. Possible environmental education opportunity for Vallejo Mill School. **Constraints**: Currently difficult to access, used for homeless encampment.
	**1.4.2**: Orchard Drive former trestle **View**: Looking north from atop the Orchard Drive trestle **Opportunity**: Trail should be lowered to street grade between the wye and Pickering Avenue. Lower trail would provide more privacy for adjacent homes. If homes north of Orchard Drive along Barton Drive and Timpanogas Circle added (private) backyard gates, those residents would gain access to the new open space and improved access to Vallejo Mill School and Park. **Constraints**: Spoils disposal and cost considerations
	**1.4.3**: Former Orchard Drive trestle, Vallejo Mill School and Park **View**: Looking east from the Orchard Drive terminus to Orangewood Drive beyond. Vallejo Mill Park and School are just beyond the trestle. **Opportunity**: Align trail at surface grade to the north and south, to improve connectivity to park and school, as well as triangle parcel (possible park site) to the north. Trail at grade would eliminate the need for an ADA ramp. Surplus material from railroad embankment could be placed at the triangle parcel. **Constraints**: Cost for debris removal and earthmoving.

Area 1.5: Pickering Avenue Overcrossing

1.5.1: Pickering Avenue overcrossing
View: Facing south
Opportunity: Railroad embankment could be removed from this point north. Removing ballast would lower trail surface by 18" or more.
Constraints: Height of overcrossing relative to roadway below makes ADA ramps infeasible near the structure, necessitating bicycle and pedestrian connections to nearest streets. Fortunately, this appears feasible on the east side and possibly also on the west side.
Needs: ADA-compliant connection to sidewalk network below. Provide safety railings on structure.

1.5.2: Southeast access to Pickering Avenue overcrossing
View: Looking east from overcrossing along graded landscape area on south side of Pickering Avenue. Backyard walls are to the right. This area ends at Tierra Street, which intersects Pickering.
Opportunity: Utilize existing graded area on southeast side of Pickering to provide ADA-compliant bicycle and pedestrian ramp to Pickering/Tierra intersection. Retrofit exisitng steep staircase from Pickering's south sidewalk near east side of overcrossing (not shown in photo).
Constraints: Landscape corridor narrows considerably near Tierra. May require path easement at Tierra.

1.5.3: Northeast access to Pickering Avenue overcrossing
View: Looking west from Pickering Avenue north sidewalk
Opportunity: Add staircase connecting north sidewalk (lower left in photo) up to trail overcrossing for non-ADA pedestrian connection. Optionally, or alternatively, provide an ADA ramp, possibly folded (switchback).
Constraints: Available width between the sidewalk and the backyard fences for a folded (switchback) ramp.

	**1.5.4**: Pickering Avenue overcrossing south sidewalk **View**: Facing west, looking under railroad bridge **Opportunity**: Possibly upgrade existing (steep) staircase for able-bodied pedestrians to access trail above, as alternative to walking all the way to Tierra Street where an ADA-compliant ramp would tie in. **Constraints**: None.

Area 1.6: Morrison Canyon Road

	**1.6.1**: Morrison Canyon Road grade crossing **View**: Facing north **Opportunity**: To create a trail crossing that is recognizable to motorists and as safe as possible for trail users, possibly with a median refuge. For details, see Safety Analysis. **Constraints**: Available width on east (rural) roadway leg may be insufficient for adding a median refuge unless widened, which would involve grading and drainage improvements.

Area 1.6: Morrison Canyon Road

	**1.6.2**: Alameda County Flood Control District (ACFCWCD) parcel on east side of corridor south of Morrison Canyon Road **View**: Facing south from Morrison Canyon Road **Opportunity**: Trailhead and access to Canyon Heights neighborhood via existing gate; replace with bollards to prevent vehicular access. Restoration/enhancement of existing drainage channel into neighborhood amenity. **Constraints**: Flood control infrastructure considerations **Needs**: Fencing of drain would be needed, as well as pedestrian bridge over creek channel to access UPRR ROW.
	**1.6.3**: Canyon Heights Drive **View**: Facing south from Alameda County Flood Control District (ACFCWCD) parcel on east side of corridor (rail corridor is off right side of photo) **Opportunity**: Potential location for neighborhood access to trail. Access could be provided at the north end of Canyon Heights Drive, at the cul-de-sac behind the gate shown, or a new gate could be added in the wall that separates the neighborhood from the rail corridor.

Area 1.7: Mission Boulevard / Stevenson Boulevard

	**1.7.1**: Stevenson Blvd. connection **View**: Looking west from rail corridor toward Montessori School located in the shopping plaza on the east side of Mission Blvd. at the Stevenson Blvd. signal **Opportunity**: Important potential trail link to signalized Stevenson Blvd./Mission Blvd. intersection, connecting to City's bikeway network and the California School for the Deaf just west of Mission Boulevard. This trail connection could also serve the Montessori School located in the triangular parcel on the northeast corner of the Mission Boulevard / UPRR junction. **Constraints**: Separate parcel, private property. Minor land swap may be needed to create width for trail connection to Stevenson signal. 20-30 ft. bridge needed at channel crossing nearby along corridor to the north (not shown) needs to be replaced or repaired.
	**1.7.2**: Mission Blvd, northeast side of UPRR ROW **View**: Looking south from railroad bridge; private school along east side of Mission Blvd. at left of photo **Opportunity**: Potential ramp/access to adjacent school on southeast quadrant of Mission Blvd. / UPRR junction. Ramp would connect to east sidewalk of Mission Blvd. and could also serve this school. **Constraints**: Ramp structure needed to provide access to Mission Blvd. sidewalk, and possibly to outside lane (for bicyclists). Possible ROW acquisition needed for ADA compliance.

Area 1.7: Mission Boulevard / Stevenson Boulevard

	**1.7.3**: Mission Blvd, northwest side of UPRR ROW **View**: Looking west from railroad grade just north of railroad bridge **Opportunity**: Stairs/ramp could be provided to serve office building. **Constraints**: Ramp structure needed to provide access to Mission Blvd. Possible ROW acquisition needed for ADA compliance.
	**1.7.4**: Mission Blvd. trestle **View**: Looking north from atop the trestle **Opportunity**: Trail could be lowered to trestle deck level if excess gravel is removed. **Constraints**: Safety rail needed.
	**1.7.5**: Mission Blvd. / UPRR ROW junction, southeast quadrant **View**: Facing west toward trestle. East portal of Mission Blvd.'s south sidewalk tunnel is shown **Opportunity**: Potential loop trail access via ACFCWCD maintenance road that parallels the UPRR line to the south (existing informal trail). **Constraints**: Not feasible to provide ramp to Mission Blvd./tunnel elevation in this quadrant due to adjacent creek channel. West-side connection from Mission Blvd. to railroad grade would be provided in the northwest quadrant.

Area 1.7: Mission Boulevard / Stevenson Boulevard

1.7.6: Mission Blvd, southwest side of UPRR ROW

View: Facing south toward railroad. West portal of Mission Blvd.'s south sidewalk tunnel is shown

Opportunity: Preferred location for ramp from UPRR trail to Mission Blvd. grade. Ramp would meet elevated railroad grade approximately 100 feet south of tunnel, and ramp north (downward) to pedestrian tunnel entrance. Bicyclists would connect to/from southbound Mission Blvd. via sidewalk segment.

Constraints: Minor vegetation removal (berries) needed to accommodate ramp.

Table 3-2. Trail Opportunities and Constraints
Segment 2: Mission Boulevard to Paseo Padre Parkway

Description: Wide railroad corridor (roughly 500' at Mission Boulevard and 300' at Paseo Padre Parkway) defined by rail lines its edges. Active UPRR runs along west side. Golf course occupies area between the rail lines north of Lake Elizabeth. Open space to the south. At Lake Elizabeth, future BART would daylight and run along the east side to the south; active UPRR would occupy the center of the corridor, and the trail would jog from the east side to the west side to continue south.

Issues: Improving existing trail segment with clear delineation of alignment where the trail crosses from east to west side of corridor.
Specific location and design of at-grade trail crossing of UPRR line near Lake Elizabeth.
Alignment options along Lake Elizabeth (share existing lake-side path, or stay along railroad line)

Opportunities: Improved connections to neighborhood trails on east side, including power line corridor near Paseo Padre Parkway.
Connections to Central Park.

Constraints: Coordination with BART/UPRR re-alignment to avoid conflicts and to enable continous trail use during BART construction.

Area 2.1: Mission Boulevard to Gomes Park

2.1.1: Intersection of ACFCWCD maintenance road and UPRR line (south end of potential loop trail)

View: Facing north from south end of ACFCWCD access road parallel to UPRR line

Opportunity: Potential loop trail between Mission Boulevard and this point, using ACFCWCD access road paralleling the rail line on its east side. There is an existing informal (unpaved) trail on this access road.

Needs: Grade trail for ADA access. Possibly pave for bicycle/skate use.

Area 2.1: Mission Boulevard to Gomes Park

	**2.1.2**: ACFCWCD maintenance road, south of San Carlos Court **View**: Looking east from rail ROW toward neighborhood trail bridge **Opportunity**: Maintenance road provides access to neighborhood trail system that connects adjacent courts (cul-de-sacs) **Needs**: Grading and paving for pedestrian/bicycle use and ADA compliance. Gates at neighborhood trail bridge would need to be modified to allow cross access to the rail trail.
	**2.1.3**: Gomes Park access **View**: Looking west toward rail ROW, golf course, and Central Park **Opportunity**: Establishment of public trail connection to local neighborhood trails via ACFCWCD access road **Needs**: Improved signage/entryway access needed. Modifications to gate could be considered, especially if this trail along the canal was paved.

Area 2.2: Golf Course and Central Park Access

	**2.2.1**: Central Park Golf Course **View**: Looking west from east side of wide railroad ROW toward west side and Lake Elizabeth beyond **Opportunity**: Establishment of public trail, primary east-west connection for trail system at Central Park. Connection to the east on ACFCWCD corridor past Gomes Park **Constraints**: Conflicts with golf course use Improvements including signage are needed to clarify preferred trail alignment

Area 2.2: Golf Course and Central Park Access

	**2.2.2**: Central Park at UPRR ROW **View**: Facing north from east perimeter of Lake Elizabeth. Loop trail around lake is shown. RR ROW and golf course are east of fence shown in photo. **Opportunity**: Establishment and construction of a public railroad pedestrian/service vehicle crossing. RR grade crossing to be improved. **Constraints**: Depending on alignment UPRR corridor trail, potential need for bridge across drainage channel. Need to select location for proposed improved RR grade crossing, and options for RR pedestrian crossing signal.
	**2.2.3**: UPRR alignment east of Lake Elizabeth **View**: Facing south from Central Park / Golf Course RR crossing area **Opportunity**: Sufficient area/separation for trail alignment parallel to active rail line, provides direct link to alignment further south (bicycle transit) **Needs**: Does not provide direct connection to trail system at Lake Elizabeth, but loop trail should be considered
	**2.2.4**: Trail along east perimeter of Lake Elizabeth (Alternative to trail alignment on RR ROW east of trees) **View**: Looking north **Opportunity**: Trail alignment would incorporate existing popular trail. Opportunity to provide link/crossing where disturbance will occur for BART tunnel construction. Preferred route for pedestrian users of trail. **Needs**: Potential conflict between existing pedestrian users and bicyclists making through trips (i.e. trips not associated with the lake's perimeter trail). Existing lake trail is wide but is not signed or striped for separate users. Popular strolling area for families with young children. Need for bridge to cross creek back to UPRR ROW.

Area 2.3: Lake Elizabeth to Paseo Padre Parkway

	**2.3.1**: UPRR ROW at BART subway east portal daylight location **View**: Looking north toward golf course. Area to left of tracks is one possible trail alignment. **Opportunity**: Trail alignment to meet abandoned UPRR ROW **Constraints**: None
	**2.3.2**: Stivers Lagoon Environmental Park **View**: Looking west from RR ROW **Opportunity**: Potential connection to Stivers Lagoon environmental trail **Constraints**: Ramp/access transition for ADA compliance is needed

Area 2.3: Lake Elizabeth to Paseo Padre Parkway

	**2.3.3**: UPRR east ROW and PG&E transmission line corridor **View**: Looking north from Paseo Padre Parkway toward golf course. One PG&E tower is visible at left. **Opportunity**: Opportunity to provide spur trail on unused ROW to connect to neighborhood along PG&E ROW (existing informal trail) and the east side of Paseo Padre Pkwy. **Constraints:** Adjacent wetlands **Needs**: Guide signage
	**2.3.4**: Paseo Padre Parkway **View**: Looking west from RR ROW on south side of Paseo Padre Pkwy **Opportunity**: Pedestrian/Bicycle bridge across Paseo Padre Pkwy to be provided as part of grade separation project, as well as maintenance road/trail on north side of Parkway, which could be utilized for additional trail access point to/from westbound Paseo Padre Pkwy and to create a potential loop trail along UPRR east ROW. **Constraints**: Provide directional signage

Table 3-3. Trail Opportunities and Constraints
Segment 3: Paseo Padre Parkway to Washington Boulevard

Description: Wide railroad corridor (roughly 300' at Paseo Padre Parkway and 200' at Washington Boulevard)
Future BART would run along its east side, relocated UPRR in the middle, and the trail along the currently-active west rail line.

Issues: Resolution of alignment in Irvington Specific Plan area.
Specific alignment along or through proposed Irvington BART station

Opportunities: Providing local trail connections especially on west side of corridor

Constraints: Trail/rail conflicts in constrained areas especially near Washington Boulevard

Area 3.1: Paseo Padre Parkway to Washington Boulevard

3.1.1: South of Paseo Padre Parkway

View: Looking east into RR ROW. Note embankment on east side of rail line.

Opportunity: Trail to be constructed as part of proposed adjacent residential development north of Washington Blvd. Opportunities for internal connections from residential development to trail should be considered.

Constraints: Elevation differences between trail alignment and adjacent areas will necessitate ramp construction to provide connections to neighboring sites.

Area 3.1: Paseo Padre Parkway to Washington Boulevard

	**3.1.2**: UPRR at High Street **View**: Looking north **Opportunity**: Important to provide smooth transition to proposed neighborhood retail area, with multiple connections to trail alignment. **Constraints**: Trail should be located on west side of UPRR alignment and east of streets to minimize vehicular conflicts and street crossings
	**3.1.3**: Washington Blvd. future overpass area **View**: Looking south **Opportunity**: Sufficient area/ separation/ clearance will be provided under bridge structure to allow for trail and street construction. **Constraints**: Trail should be located on west side of UPRR alignment and east of streets to minimize vehicular conflicts and street crossings.

Table 3-4. Trail Opportunities and Constraints
Segment 4: Washington Boulevard to South Grimmer Boulevard

Description: A mix of residential uses south of Washington and west of the UPRR corridor, transitioning to industrial uses along Osgood Road and south of Auto Mall Parkway.

Issues: Selection of preferred location for crossing the railroad corridor from the west side to the east side to connect to the proposed Warm Springs BART station and to residential areas south of Grimmer

Opportunities: Links to residential areas and the local school

Constraints: VTA will not allow trail within ROW, potential conflicts with adjacent residents and industrial uses.

Area 4.1: Irvington BART Station

4.1.1: Osgood Road / Washington Blvd.

View: Looking north

Opportunity: Proposed Irvington BART Station. Opportunity to incorporate separated bicycle and pedestrian circulation system to connect with trail.

Constraints: BART station design should incorporate UPRR pedestrian overpass and trail connection.

Area 4.1: Irvington BART Station

	**4.1.2**: North of Washington Blvd., east of Roberts Avenue **View**: Facing northwest from east side of rail corridor **Opportunity**: New street to connect to proposed Main Street retail area. Opportunity to create trail connection under planned Washington Boulevard overpass. **Constraints**: Trail crossing should be located on UPRR side of street to avoid street crossings.
	**4.1.3**: UPRR north of Adams Ave **View**: Looking south along wall on west limit of ROW **Opportunity**: Opportunity to provide trail connections to existing neighborhoods along segment where the future UPRR alignment transitions back to the existing track configuration.. Existing street segment parallels UPRR south of Adams. **Constraints**: Street segment is blocked off and posted by neighboring property owner.
	**4.1.4**: ACFCWCD channel east of BART corridor **View**: Looking east (away from ROW) **Opportunity**: Channel parallels BART tracks, possible joint use of maintenance access if route is on east side of BART. **Constraints**: Industrial area, does not provide opportunities for neighborhood pedestrian access.

Area 4.1: Irvington BART Station

(No photo)	**4.1.5**: UPRR north of Carol Avenue **View**: **Opportunity**: Potential trail connection from adjacent street **Constraints**: Needs sufficient ROW to place trail within existing rail ROW, elevation differences between trail and street.
	**4.1.6**: ACFCWCD channel **View**: **Opportunity**: Opportunity for neighborhood/cross trail connection. **Constraints**: Potential ACFCWCD joint use conflicts.
	**4.1.7**: NW Blacow Road **View**: **Opportunity**: Vacant strip adjacent to UPRR ROW could be used for trail segment. **Constraints**: Privately owned

Area 4.2: Blacow Road to PG&E power line corridor north of Auto Mall Parkway

	**4.2.1**: Blacow Road **View**: East side of RR ROW, facing west from near City of Fremont Corporation Yard **Opportunity**: Design of future roadway overcrossing could accommodate trail crossing **Constraints**: ADA slope limitations
(No photo)	**4.2.2**: City of Fremont Corporation Yard **Opportunity**: Publicly owned parcel could be reconfigured to accomodate trail segment along railroad ROW **Constraints**: Residential neighborhoods are on west side of rail line
(No photo)	**4.2.3**: SW Blacow Road **Opportunity**: Vacant strip adjacent to UPRR ROW could be used for trail segment **Constraints**: Privately owned
	**4.2.4**: Grimmer School **View**: West (school) side of RR ROW, facing north **Opportunity**: Opportunity for neighborhood/school connection at Grimmer Elementary School, possible Safe Routes to Schools **Constraints**: Land south of school along UPRR corridor is privately owned, homes are near ROW, acquisition costs

Area 4.2: Blacow Road to PG&E power line corridor north of Auto Mall Parkway

	**4.2.5**: East of Newport Drive **View**: West side of RR ROW, facing south **Opportunity**: Vacant strip adjacent to UPRR ROW could be used for trail segment **Constraints**: Privately owned
	**4.2.6**: Industrial Area west of Osgood Road **View**: **Opportunity**: Possible trail alignment on east side of RR ROW **Constraints**: Not a residential area. ROW would need to be acquired from individual property owners
	**4.2.7**: PG&E transmission line corridor (running E-W north of Auto Mall Parkway) **View**: Facing east from RR ROW toward Osgood Rd **Opportunity**: City/PG&E corridor ownership provides opportunity for crossover of trail corridor. Potential links along power lines to neighborhoods to west via Hopkins Ave., Montrose Ave., Fremont Blvd., Gatewood St., Southlake Commons, Cedarwood Dr., Grimmer Blvd., and Isle Royal St., and to Osgood Rd. to the east. **Constraints**: Private Land. Pedestrian tunnel(s) or bridge(s) would be needed to transition the trail from the west to east side of the RR ROW. **Opportunity**: Connection to neighborhoods east of I-680 and possible Bay Trail - Ridge Trail connection **Constraints**: Need for I-680 pedestrian overcrossing, possibly near Cormack Rd.

Area 4.2: Blacow Road to PG&E power line corridor north of Auto Mall Parkway

	**4.2.8**: ACFCWCD creek corridor **View**: East side of RR ROW, facing north **Opportunity**: Possible trail parallel to BART alignment, crossing from west to east side of rail/BART ROW with undercrossing **Constraints**: Below grade crossing near creek channel, ACFCWCD joint use of road

Area 4.3: Auto Mall Parkway to Tavis Place / Prune Ave

	**4.3.1**: Auto Mall Parkway **View**: Facing south from just north of Auto Mall Pkwy bridge. Rail maintenance vehicle on tracks. **Opportunity**: Opportunities to ramp to grade from side embankments. **Constraints**: Large elevation of roadway above tracks means that trail connections would occur at or near the Osgood Rd. signal to the east, and Hugo Terrace (Home Depot driveway) to the west. Home Depot is a significant existing bicycle destination for day laborers. There is currently no cross connection between the north and south sides of Auto Mall Parkway at Hugo Terrace.

Area 4.3: Auto Mall Parkway to Tavis Place / Prune Ave

	**4.3.2**: PG&E utility corridor just south of Home Depot **View**: Facing south along RR ROW (fence to left) in back parking lot of light industrial buildings accessed from Yale Way / Edison Way **Opportunity**: Opportunity for neighborhood trail connections, potential joint use of channel access. **Constraints**: Narrow corridor, limited ROW for joint trail, possible joint use conflicts. West of corridor, private industrial lands used for PG&E transmission towers (see photo) would need to be acquired for alignment.
	**4.3.3**: ACFCWCD creek corridor on east side of RR ROW **View**: Facing south from Auto Mall Pkwy bridge, east of RR ROW. Home Depot visible at upper right. Edge of Wal-Mart parking lot visible at center left. **Opportunity**: Opportunity for neighborhood trail connections, potential joint use of channel access **Constraints**: Narrow corridor, limited ROW for joint trail, possible joint use conflicts

Area 4.3: Auto Mall Parkway to Tavis Place / Prune Ave

4.3.4: Tavis Place/Prune Ave

View: Facing north from west side of RR ROW near Tavis Place

Opportunity: City ROW crosses UPRR corridor. Little-used streets offer crossing opportunity (alternative to S. Grimmer Blvd.). Dual track to be removed may provide ROW for parallel alignment on west side of corridor. PG&E parcels on west side of tracks could be used for access. ACFCWCD channel on east side also has potential if culverted to create access.

Constraints:

Table 3-5. Trail Opportunities and Constraints
Segment 5: South Grimmer Boulevard to South City Limits

Description: An industrial area with active rail and multiple rail spurs to serve users on the west side of the corridor, including a large rail yard serving the New United Motor Manufacturing, Inc. (NUMMI) automobile assembly plant.

Issues: Locating pedestrian/bicycle corridor on west side would be problematic, with multiple rail/trail crossing conflicts and private property concerns. South of Mission Boulevard, trail on east side of BART line would be desirable to provide access to residential areas east of Warm Springs Boulevard, and retail and office uses between the RR ROW and Warm Springs Boulevard

Opportunities: If trail is on west side of corridor north of S. Grimmer Blvd, cross over to east side of ROW at S. Grimmer Boulevard / Warm Springs BART station.

Constraints: VTA will not allow trail within ROW, lack of available width along east side of corridor, especially south of Warren Avenue along adjacent business park parking lots.

Area 5.1: S. Grimmer Blvd / Warm Springs BART Station

5.1.1: S. Grimmer Blvd.
View: Facing south along west side of railroad bridge.
Opportunity: Proposed Warm Springs BART Station. Opportunity to incorporate separated bicycle and pedestrian circulation system to connect with trail. Trail would connect through station on east side of ROW, then continue along east side to the south.
Constraints: After crossing over S. Grimmer Blvd. on a trail or trail+rail bridge, need to cross under (preferred) or over BART tracks to reach station. Trail should be located on east side of corridor to provide link to BART station. Station design should accommodate trail alignment past station building while minimizing conflicts with pedestrian and vehicular cross-traffic. Station design should incorporate pedestrian/bicycle bridge across RR ROW to NUMMI.

Area 5.1: S. Grimmer Blvd / Warm Springs BART Station

	**5.1.2**: UPRR overcrossing of S. Grimmer Blvd. **View**: Facing southeast. Note S. Grimmer Blvd. sidewalks elevated above roadway grade, similar to Pickering Avenue. **Opportunity**: Connection to underpass sidewalks. **Constraints**: Separate trail bridge structure may be needed if existing rail bridges are both utilized for BART and UPRR traffic.
	**5.1.3**: Warm Springs Court **View**: Facing south along east side of RR ROW north of NUMMI rail yard, (NUMMI complex is visible in the distance at upper right) **Opportunity**: BART lands east of corridor could be utilized to provide parallel alignment. **Constraints**: Multiple tracks in NUMMI rail yard area preclude safe route west of corridor. Private land.

Area 5.1: S. Grimmer Blvd / Warm Springs BART Station

	**5.1.4**: NUMMI property **View**: South along RR ROW **Opportunity**: **Constraints**: Multiple tracks preclude safe route west of corridor. Private land.
(No photo)	**5.1.5**: ACFCWCD Channel east of BART **View**: **Opportunity**: Opportunity for neighborhood trail connection along channel maintenance road. **Constraints**: Private lands along east side of corridor. Additional ROW may be needed if trail not accommodated within BART ROW.

Area 5.2: Mission Boulevard

	**5.2.1**: Mission Blvd. roadway undercrossing **View**: Facing north from embankment on SE corner, along east side of RR ROW. Retail center and Warm Springs Blvd. are to the right, off the photo **Opportunity**: **Constraints**: New bridge across Mission Blvd. may be needed to accommodate trail if existing BART and UPRR bridges are both utilized for rail traffic.
	**5.2.2**: ACFCWCD channel behind retail center on SW quadrant of Mission Blvd. / Warm Springs Blvd. intersection **View**: Facing south from Mission Blvd. roadway undercrossing. Retail center is to left of ACFCWCD channel visible at left in photo. **Opportunity**: Sufficient area at top of bank to connect to trail at SE corner of junction, if trail is on east side of ROW. Opportunity for links to Warm Springs Blvd., retail center, and amenities. ACFCWCD channel also provides opportunity for neighborhood link. **Constraints**: Buffer/fencing will be needed to limit access to retail center delivery area.

Area 5.3: Warren Avenue to South City Limit

	**5.3.1**: Warren Avenue **View**: Southeast from west side of RR corridor **Opportunity**: Extra corridor width and city parcel should provide sufficient ROW in street design to accommodate trail corridor. **Constraints**:
	**5.3.2**: East side UPRR/BART corridor **View**: Facing north. Fence under trees marks probable ROW limit. **Opportunity**: East-side alignment would serve more office parks than west side, and (unlike west side) would also serve residential areas east of Warm Springs Blvd. via spur trails to Warm Springs Blvd. signals. **Constraints**: Private lands along east side of corridor. Additional ROW may be needed if trail not accommodated within BART ROW.
	**5.3.3**: ACFCWCD channel **View**: Facing south along fence defining east side of RR ROW. **Opportunity**: Opportunity for neighborhood trail connection along channel maintenance road, to Warm Springs Blvd. near Tonopah Drive. **Constraints**:

Area 5.3: Warren Avenue to South City Limit

	**5.3.4**: Abandoned rail spur around north end of Kato Terrace office park **View**: Facing west from the north end of the abandoned rail loop (the Bay is visible in the distance) **Opportunity**: Opportunity for trail connection around office park to the Tonopah Drive / Warm Springs Blvd. intersection. Tonopah Drive is a gateway into the residential area east of Warm Springs Blvd. **Constraints**: Private land.
	**5.3.5**: Kato Road. **View**: Facing north along east side of RR ROW. **Opportunity**: At grade crossing needs appropriate sign and crossing improvements. **Constraints**: Private lands along east side of corridor. Additional ROW may be needed if trail not accommodated within BART ROW.
(No photo)	**5.3.6**: ACFCWCD channel. **View**: **Opportunity**: Opportunity for neighborhood trail connection along channel maintenance road. **Constraints**: Private lands along east side of corridor. Additional ROW may be needed if trail not accommodated within BART ROW.

Area 5.3: Warren Avenue to South City Limit

5.3.7: Park Terrace condominiums at Milpitas City Limit.
View: Facing west toward RR ROW (behind wall).
Opportunity: Opportunity for private connection between new condominium development and trail alignment.
Constraints: Private land.